Set of 6 cases taken by permission of Professor Wyllie in the University Clinical Wards during the current sessions and submitted for competition for the "Wightman Prize".

July 1st 1911
Puching Sha

Age: 36  
Occupation: Sailor
Native Place: Shanghai
Present Address: S.S. Shenchi, Leith.  
Recommended by: Dr. Marshall.
Admitted to: Ward 34.
Date: Nov 29th 1910.

Complaint: "Pains in the legs and also in the forearms.  
Swelling of the ankles.  
Weakness over the heart."
As the patient could not speak English, it was very difficult to get a good history, but owing to the kindness of Mr. Chang, a fellow student, to whom I am greatly indebted, the following particulars were obtained.

**History of Present Illness.**

The "Glenelg" had been calling at different ports of China and Japan but patient did not go ashore. He felt well at the beginning of the voyage but 2 or 3 days after leaving Singapore the pain started in his legs. He continued his work with difficulty as exertion aggravated the pains. He got easily breathless. About a week later he was sick, vomited twice in one day. Then the feeling of weakness over the heart began and he was short of breath. Occasionally there were attacks of acute pain across the chest. There was no failing of his appetite, in fact he states he was always hungry.

When the ship got to Hamburg, he was sent to hospital there as his feet were beginning to swell. He was not treated there but came in with his ship to Leith where his case was reported to Dr. Robertson. He was also seen by Dr. Marshall and sent to the Infirmary on Nov 29th.
Pulging Sha

Dec
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

BERI-BERI.

NOTE 29th line (1)
(1) Light any diet

See 30th line (1)
Re, Streptococae, Hydroxy m V.
F.I.D.

See 30 continue light diet

TEMPERATURE
FAHRENHEIT

PULSE

62 60 60 70 92 60 60 50 70 70 84 80 96 86 92 92 92 84 88 76 80 80 92 96 94

RESP.

16 13 16 16 20 20 20 20 20 24 24 16 24 24 20 16 20 16 20 20 20 16 16 16 20 76 24 18 20
Previous Health

He has always been healthy and strong. In June 1910 when in Funchal his feet swelled but passed off again in about 10 days without treatment.

Social Conditions and Habits

He lived the ordinary life of a sailor. His diet consists chiefly of Chinese rice which was well cooked. In addition he had salt meat and fish occasionally. He drinks chiefly lime juice, lemonade and is not addicted to the use of alcohol. When possible the ship calls for fresh vegetables of which he is very fond.

Family History

Could not be obtained as he has never known his parents.

Present Condition

Pat is a big, well-developed Chinese man with a calm pleasant expression. He is about 5 ft 4 in height and weighs about 11 stones. He is confined to bed as he cannot walk.

Temperature on admission: 99°. (See chart)
Skin Subcutaneous Tissues.

Patient does not purpura there are no skin eruptions. There is no jaundice. No pallor.
There is a distinct puffiness of the face especially under the eyes & there is oedema of the ankles & the dorsum of the foot. The legs are also swollen but have a peculiar hard burny feel on pressure & are tender.

There are no marks of Syphilis or Tuberculosis and no signs of Rheumatism or Bout.

Hæmopoietic System.

A careful search for organism was negative. R. B. 60. 5,100,000

W. C. 5,312

Hb. 98%  

The blood was normal in colour & fluidity. 

There are no lymphatic glands enlarged in the neck, axilla or groin.

Spleen & thyroid are normal.

Nervous System.

Patient seems a man of fair intelligence his memory is good. He is of a 
very placid nature idea not take much
interest in things, but is quite cheerful & bright when spoken to. He sleeps well.

Motor functions.

Upper extremities. Grip is poor seems to cause some pain, so as recorded by dynamometer. He has some slight defect of coordination so he cannot touch his nose easily, if his eyes are shut it takes him a little longer than it should do to button his jacket.

With his eyes shut he sways about would fall if not supported, he walks with a shuffling step, scraping his toes along the floor using a wide base. He turns round slowly & with difficulty. Forearms are painful if squeezed. Muscle sense is very slightly impaired.

Lower extremities.

Knee jerks both absent. The plantar reflex is flaccid, there is no ankle clonus. All the superficial reflexes are present. The calf muscles are swollen tender, the whole leg below the knee is firm & hard. There is oedema present especially over the feet & ankles although the characteristic pitting on pressure is not very obvious.

The joints are moveable but there is little power
in the legs so he cannot kick well against resistance. This ataxic gait has already been referred to the has to make use of the various surrounding articles of furniture when moving along.

There is no derangement of the trophic junctions.

Sensory junctions.

Has no headaches now but was subject to them on the voyage. No vertigo.

Tactile sensibility is completely absent below the knee in both legs except for a small area on the left foot round the external malleolus. There are no areas of anesthesia about the body; arms. In fact, the forearms are distinctly tender to the touch.

Sensibility to heat and cold slightly impaired in the lower extremities.

There is pain in pressure over the calf muscles over the front of the shin tibias of the foot.

Special senses.

Eyes, hearing, taste, smell are normal.
Coronary System.

Subjective. Complains of palpitation on slight exertion tachypnea. There is a general feeling of uneasiness over the heart but no definite pains at present.

Pulse 92 per min. irregular in rate or rhythm. So strong & full. Rise & fall rather slow. After fairly well sustained. No murmurs.

Tension is fairly high. Registered by the Riva Roccet = 150.

The veins are normal. There is no thickening or turgescence.

Radial pulsation equal & synchronous.

Physical Signs. Inspection.

Nothing to note. Aper beat not visible.

Palpation.

Aper beat is not palpable. No epigastric pulsation. No venous pulsation in the neck.

Auscultation.

Heart sounds are rather faint but clear & there are no bruises.

Pericardium.

Superficial. Right border of heart = ½ right of sternum

Deepness. Upper " " " = 2nd interspace
Deep cardiac dullness overlaps the superficial cardiac dullness by 2 1/2" all round.

**General Circulation.**

There is considerable edema of the face and legs. There are no varicose veins and no cyanosis.

**Respiratory System.**

Suffers occasionally from shortness of breath especially on exertion. Has no pain in the chest now. Has no cough nor sputum. There is no obstruction to the breathing.

**Inspection.**

Chest is not normal in shape. Measures 35" at the nipples. Is well clothed with muscle. There are no local bulgings or flattening or drawing in of the interspaces.

Chest moves easily on respiration. 20 per minute. The breathing is thoraco-abdominal in type. No special characters.

Inspection shows that the parts outside the chest are normal.

**Palpation.** Expansion on the two sides equal. Vocal fremitus normal.
Perception.

Lung is resonant all over. No duller areas nor hyperresonance.

Auscultation.

Breathing vesicular all over. There are no morbid accompaniments.

Vocal resonance normal.

Digestive System.

Patient's appetite is very good. He could eat a great deal more if allowed. It is not thirsty. No difficulty of deglutition.

There is no pain nor tenderness over the abdomen.

Patient has vomited once or twice during the voyage but not for the last few weeks.

No eructations. Heart burn not water-brash.

He is rather inclined to be constipated.

Objective.

Tongue is red and moist. Is protruded in a straight line. Slight whitish fur.

The teeth are very good. The gums pharynx normal. He has no sore throat.

The abdomen is perfectly normal on inspection, palpation & percussion. The liver is not enlarged. The stomach not dilated.
Renal Urinary.

Urines 60 to 70 per day. No pain on micturition and patient has full control.
Sp Gravity 1.020, neutral, no albumen, no sugar.

Subsequent Treatment and Progress.

On admission patient was put to bed and on a light diet. He had an enormous appetite and would eat as much as one would give him. He slept quite well and not complained much of pain except on pressing over the calves. Dec 1st. Still had a great appetite and was sleeping well.

Dec 4th. Was given Strychnine Hydrochlorid m x t.i.d.

Dec 6th. Massage of legs especially around group was commenced, arms were also massaged. Oedema gradually lessening.

Dec 10th. The oedema over the heart has disappeared. Patient is quite cheerful and happy. Is beginning to take an interest in things round him trying to improve his English.

Dec 14th. Progressing favourably.
Dec 20th. Still progressing, muscles are not so tender to the touch & the oedema is practically gone. The battery has been applied to his legs.

Dec 24th. Has developed drop foot and cannot dorsiflex his foot. A cage has been placed over it.

Dec 28th. Not so much pain now & oedema has disappeared. No uneasiness about the heart, he seems quite contented.

Sleeps tries quite well.

Jan 1st. Can move his toes a little better now but has not much power in dorsiflexing his foot.

Jan 4th. Improving steadily reduces much less tender. Appetite good.

Jan 11th. Left this morning for London to embark for Hong Kong.

Weight 9 stone 7 lbs. as compared with 9 stone 3 lbs. on Dec 5th.
This case although comparatively rare in this country, illustrates well a disease which is one of the scourges of tropical countries. It forms one of the greatest factors in the death rate of those countries where the Chinese or Asiatic element predominates, as yet practically little or nothing is known definitely as regards the causal organism or toxin. Sir Patrick Manson states in this connection that "it is a somewhat humiliating fact that although Beri-Beri is a disease of first class importance in the tropics, although it exhibits peculiarities in its epidemiology so striking that they seem to suggest that surely the cause cannot be hard to find, that although not a few investigators, medical lay, have diligently set themselves to find the cause, we are about as ignorant of its true nature to the medium in which it is applied, to the other etiological circumstances, as was Bontius when he wrote about Beri-Beri over 250 years ago.

In this country the cases are generally the result of a ship epidemic the last outbreak in this district occurred about
6 years ago when a sailing ship put into Leith with practically the whole of the crew including the Captain suffering from the disease, although the European portion did not appear to suffer to the same extent as the Chinese portion.

The outbreak was investigated by Major Marshall but without coming to any definite conclusion as to the cause, one must consider that this outbreak is of a similar nature.

It is well known that there are certain predisposing causes which may influence the onset and spread of the disease and will be interesting to see if any of them will assist in determining the cause of this outbreak.

It is more prevalent in tropical countries during hot, moist weather, and often breaks out on the forecastles of ships coming from hot climates through overheating on reaching colder climates. Perhaps this is one reason why the officers of the ship did not suffer to the same extent as the crew since they had better ventilated cabins, more accommodation, a greater variety of food.

Neither the captain nor the mates suffered in this particular outbreak. The temperature on the ship during the voyage was very high.
that they experienced rough weather which might account for the tents being damp. Is there also the appearance to have been any special overcrowding. The fact as to whether there had been a previous outbreak on the ship was not ascertained, but the patient himself appears to have had a mild attack before.

The food has long been recognised as a very probable source of the disease and although the diet appears to have been ample yet the want of fresh vegetables must have been an important predisposing cause. The ship was not able to carry a supply of fresh vegetables sufficient for the long voyage, between the ports called at, the crew had to subsist on lime juice and preserved vegetables, which, at the best, is a poor substitute for the real article. It has often been noticed that there is a rapid improvement when a patient is put ashore and fed on a different diet with plenty of fresh vegetables. This fact is claimed in support of the theory held by observers, who state that a keen or organism is present on the ship itself, that removal places patients out of its reach too facilitated
recovery. Sir Henry quoted an interesting experiment in Kuala Lumpur where 5 large public institutions were supplied with food of an exactly similar quality and amount and were under the supervision of the Medical Dept of the State, yet an epidemic broke out in one gaol, when the patients affected were removed to another, they speedily recovered. They were taken back to the infected gaol, again contracted the disease, only to recover on removal.

The influence of race is important in that Europeans as a rule are less liable to attach than natives, but in the outbreak 6 years ago, the whole of the crew, European and native, were down, showing that given necessary conditions they may suffer equally with natives.

As regards the exciting causes no less than 15 theories are advanced, chief of which are:

- Germ Theory.
- Toxin Theory.
- Rife "
- Part played by insects.
- Deficiency of Phosphorus content of the food. (recently formulated by Dr. Eddie Simpson of the Liverpool School of Trop Medicine)
Sir Patrick Manson holds that this neuritis is produced:

1. By a toxin, the product of a germ operating in some culture medium located outside the human body.
2. The said toxin enters the body, neither in the food nor in the water, therefore we must conclude that it is introduced into the skin or is inhaled.

Hamilton Wright on the other hand considers that the disease is due to a microorganism which affects the stomach or duodenum forming a primary lesion there, from which toxins are disseminated throughout the body. He further states that the bacillus leaving the body in the faeces is re-introduced...
by food contaminated by contact with faecally polluted
fingers or clothing. The faeces of the present case were
examined and the eggs of *Ankylostoma duodenale* were found
but this is present in the great majority of people of
that race, in itself does not appear to be capable of
causing the disease.

**Rice Theory**

It is interesting that the disease is especially
prevalent in those countries where rice forms a staple
article of food. The possible connection of malnutrition
impure rice had long been recognised. Observers
have brought forward instances to show that the
disease may be due to the presence of either fungi
or organisms in the rice with the formation of
vitamin B, or thiamine. This is recognised in
beri-beri and Pellagra.

Clarke also showed that Indians do not suffer
from Beri-Beri even when living in a country
where the disease causes 1/3 of the total deaths.
He ascribes this to the fact that they boil their rice
before husking it, while the Chinese use rice which
has been husked raw, that may be contaminated by a
poison which lies in the husk.

Specimens of the rice used during the voyage were
obtained by Major Marshall and experiments have been
carried out with friends. Up to three weeks ago there had died, one showing signs of neuritis, while the other died a natural death. The others are quite well.

The rice itself seems quite similar to the ordinary rice used by the Chinese.

Part played by insects.

It has been suggested that insects may act as intermediate hosts in the same way as the mosquito, or that they may act as purely mechanical carriers. Of these the common bed bug would appear to be most probable, as they were extremely plentiful on this ship.
In conclusion one can only surmise as to how the outbreak came about. All the cases were of a fairly mild type & all recovered. The ship may have been infected by an ambulatory case or infected food might have been stepped & the disease become evident after a certain incubation period. One thing appears to be proved & that is that the disease is not transmitted by water. Observations are still being conducted in many parts of the world but until the causal organism or toxin (if there be one) is discovered or some theory is founded on a firmer basis than at present, the disease will remain a mystery.

Treatment is however usually satisfactory, at least in this country as cases rapidly recover, but it would be very interesting to know if the disease reappears in this patient & if so, at what period under what conditions, for one attack seems to predispose to another rather than confer immunity.
Name: Daniel Black
Age: 55
Widower 1 son.
Occupation: Iron & Steel Driller.
Nature Place: Glasgow
Present Address: 123 Comongate, Edinburgh
Recommended by: Dr. Carmichael
Admitted to Ward 34
2nd May 1911

Complaint:— "Pains in the chest & back & down the left arm. Nerveness."
History of Present Illness

Last June patient was working hard on a hot summer day & was sweating profusely. He sat about afterwards without coat or waistcoat and thinks he got a chill. He had no cough but about a fortnight later noticed his voice was getting husky. He took nothing for it, putting it down to the chill. A week or two after he first experienced a sharp shooting pain across the chest over the back & down the left arm which he describes as being like the cutting of a knife.

These pains had no regularity, but were worse at night when they did come on. Sometimes he was free for days together & at other times they recurred several times in the day. They were not of sufficient severity to cause him to stop work.

About 6 or 7 weeks ago, in the early weeks of March, the pains became much worse & were more or less continuous & he went to Dr. Philip of Laurier Dispensary, was given some medicine which he said was very like what he is getting now. It did not do him much good & he returned to his work. Seven weeks ago, the pains were so bad that he was compelled to leave his work & go to bed for 5 weeks.
The pain was not as bad when he was up & moving about 1200 he divided his time between the bed & a couch, walking about the house when the pain was very severe.

Last Wednesday he saw Dr. Barmichael and was advised to come up to the Infirmary. He came up on Friday was examined by Dr. Boyd & sent on to Ward 34. He was admitted on Monday May 2nd.

Previous Health:

a. Had whooping cough when a child

b. Thirtyfour years ago when at Dublin with the Inniskillen Dragoons, he contracted syphilis. He was treated by the Regimental Doctor for 40 days & states he was cured. There have been no secondary manifestations.

c. Six years ago, he slipped & fell off a plough catching his side on the upturned edge & fracturing a rib. He was treated at Keith Hospital but was not detained. He got a slight wrench as he was falling but saved himself a little by grabbing some boiler taps.

d. Has often been thrown from a horse whilst training them but was never severely
injured.

With these exceptions he has always been a perfectly strong healthy man, never having a single day illness in his life.

Family History.

Father died, age 50, death of heart
Mother died, can't say
2 Brothers dead
1 Brother alive & well
1 Sister

Wife died of Pneumonia in the R.I.E. 6 mo. ago
1 Son, age 22, who is in the Army.

Social Condition and Habits.

Was a steel driller when a boy.

Joined the Army at 20 years of age in 1864, after 12 years + then 3 years on the reserve.

He went to South Africa in 1864 to 1866, then returned to England resumed his occupation as a steel driller.

When the Boer War broke out he went back to South Africa for 12 mts to train young horses from Ireland chiefly. He did no buck-jumping however. Then he came back to Glasgow to
Steel drilling, at which he continued until forced to leave it by this illness.

He has a 2 roomed house on the top flat and gets plenty of good food and fresh air. He usually takes his meals to work that a good dinner when he returns in the evening. His work is very heavy, drilling steel plates with a socket. Sometimes he has worked 2 consecutive days and nights. Frequently he has to lift heavy weights involving a great deal of strain. He has often had dull aching pains in his back but these used to disappear after rubbing with naptha on good nights rest.

About 13 years ago he was earning over £1 a day in Leith. Then used to drink heavily his bills for drink coming to as much as £2 a fortnight. Lately however he has been very moderate as his pay (23½d per week) would not allow of more than 2 glasses on Saturday.

He does not smoke.

He has been thrown many a time whilst training the horses, but has never suffered any inconvenience thereby.
Present Condition & General.

Patient is a well built muscular man about 5'8" in height, weighs about 10 stone 1/2 lbs. He has lost over a stone this last week or so. He is quite cheerful & comfortable but is anxious to get well & be at work once more. His expression is quiet but a little puzzled. He is confined to bed. Temp 98° noon & 99° evening.

Skin & Subcutaneous Tissues

He does not sweat at night there are no eruptions. The pupils are equal, react to light. There is no cyanosis, jaundice, droopy, lividity nor pallor. There are no external marks to indicate Tuberculosis or Syphilis. There are a number of dilated veins on the chest & left arm which will be referred to subsequently.

There are no signs of Rheumatism or Gout.

The little finger of the right hand was amputated by Professor Annandale some years ago on account of Septic Poisoning.

Haemopoietic System.

No enlarged glands in the neck or axillae but a few small ones in the groin.

Thyroid & Spleen normal. Blood normal.
Circulatory System

Subjective.

Patient only gets out of breath after very severe exertion. He has no attacks of dyspnoea. No palpitation nor measiness at the praecordia except the pain already mentioned.

He has never felt dizzy nor fainted.

Pulse on the Right Side

a. Is quite easily palpable.

88 per min, regular in rate & rhythm, do fairly strong full. Rise & fall fairly quick, after fairly well sustained, no diastole.

b. Not very easily compressible.

Blood pressure 135 by 2 mercury manometer.

c. The vessels walls are slightly thickened tortuous. There are no calcareous rings.

d. There is a marked difference between the pulses of the two sides that on the left being distinctly fainter than the right & also a little delayed.

On the Left Side.

a. Is hardly palpable thinly obliterated

88 per min, regular in rate & rhythm, quick rise & fall, after fairly well sustained do not so full as the right, no diastole.
Blood pressure only registers 85 mm.
Arteries are also thickened as are also the temporal arteries.

There is however no inequality of the pupils, both being equal and reacting normally.

**Physical Signs a. Inspection**

Aper beat is not visible, no obvious bulging.

b. In the region of the aortic arch there is a slight rounded projection over the front of the sternum. It measures about 3" in diameter and extends downwards as far as the 3rd costal cartilage gradually fading off towards the supra-ternal notch. By watching carefully a slight impulse synchronous with each heart beat is observable. The impulse is very feeble and not strike the chest. It is single, systolic in time.

There is no pulsation in the corresponding region behind, nor is there any in the supra-ternal notch. There are no dilated veins to be seen at the root of the neck but there is a network on the left side of the chest which is
continuous with a large tortuous vein which passes out along the front of the arilla down the left arm as far as the elbow.

There is no visible tracheal tugger.

Puscration.

Puscration of the carotids reveals a slight difference in the two sides the impulse on the left side being slightly less & a little delayed.

There is no apparent fullness of the veno.

On pressing lightly in the suprasternal notch a faint impulse is discernible.

& Puscration of the swelling shows a sudden thudding impulse seemingly deep seated toplastic in time. There is no thrill.

By grasping the orifice with the finger & thumb, with the patient sitting up in bed with head well back & mouth closed & exerting gentle pressure upwards distinct "tracheal tugger" is made out, the trachea being pulled down with each beat of the heart.

After beat is not easily palpable but is situated in the 5th interspace 1" below + ½" internal to the nipple 3½" from the mid sternum.

There is no thrill or no epigastric pulsation.
Auscultation.

Mitral Area. Heart sounds faint but clear and closed.

Systolic. Sounds normal.

Aortic. 1st sound dull thudding but no bruit.

2nd sound is deep thudding and greatly accentuated. It is heard over the whole of the chest about the nipple on the right side over a slightly less area on the left. The sounds are also heard at the back, especially about the level of 3rd + 5th dorsal spine, 3" from the middle line.

Percussion.

There is an area of dullness over the sternum extending as far down as the 3rd c. cartilage up into the suprasternal notch 1 laterally over the 2nd + 3rd c. cartilages about 3" out on the right side + 2½" on the left side (see diagram)
The right border of the heart is not easily definable but extends out about 1 1/2" from the mid-sternum.

The upper border is at a level with the lower border of the 3rd rib.

The left border extends outwards and downwards to the apex beat. Base line = 3 1/2"

The superficial dullness is less than the deep dullness by about 2 1/2" all round (see diagram).

General

General circulation.

No cyanosis, hemorrhoids, nor coldness of the hands or feet. No varicose veins except those on the chest already referred to.

No lividity, pallor or dropsy.

Respiratory System.

Has no difficulty with his breathing.

Respirations: 24 per min, easy & regular.
He complains of a constant dull boring pain in the region of the aortic arch. Occasionally these are acute exacerbations. The pains are then sharp shoot through to the back down the left arm. The constant pain is easier when patient is up & moving about than when lying in bed.

Extra Auscultation.

Patient has a peculiar, hoarse, stridulous cough in which the explosive element is almost entirely wanting. It does not cause him any inconvenience during the daytime, but at night sometimes causes the pain to come on again.

He has no expectoration. No obstruction to lung breathing.

Inspection.

Chest is well formed, well clothed with muscle. There is slight bulging in front & behind & it is slightly compressed laterally. No abnormal bulging. Measurements: 35", with 1½" expansion.

Respiration.

Breathing is easy, irregular, thoraco-abdominal in type. There are no special characters.

Parts outside of the chest are normal.

Pulsation.

Expansion equal on both sides.

Vocal pulmonic normal.
Percussion.

Note slightly hyperresonant. No areas of dullness except that in the region of the aortic arch already referred to. Slight dullness behind at about the level of 4.5.6 dorsal spines.

Auscultation.

Breathing resconsider with expiration slightly prolonged over both apices. No morbied acoumaniento. Vocal resonance normal.

Larynx. Phonation.

Voice is very husky, low pitched. There is but a trace of true voice to be made out. He speaks loudly only with effort.

Cough.

Also husky, being defective in the explosive element. It approaches more to the bovine type.

Deglutition

No difficulty in swallowing.

Respiration.

No stridor or respiration.

Palpation.

No tender spot or localized swelling over the larynx. There is however a constant pain which goes right round to the back of the neck.
**Digestive System**

Appetite good, no pain on deglutition. Sore after taking food. Has never vomited. No vomiting, heart burn or water brash.

Patient has always been constipated, had to resort to large doses of castor oil. His bowels have also been confined since admission.

Stool is large, firm, slight red in colour in protruded in a straight line. It is not coated. Teeth are very bad, being only 5 left in the bottom row + 6 at the top those are all badly decayed.

Skins, fauces, pharynx are normal.

Abdomen normal.
Genito Urinary System

Pat has no difficulty with micturition, frequency 3 or 4 times a day.
Amount 60-90 oz
Sp. gravity of Urine, 1020. Acid. No albumen
No sugar.

Nervous System

Pat is very intelligent though a good memory; there are no speech disorders.
He does not sleep well but never was a good sleeper unless working very hard. He sleeps a little during the day.
There is no impairment of motor functions.
Grip by dynamometer = 120, in either hand.
Knee jerks are present normal.
Plantar reflex is flexor.
No ankle clonus.
Sensory functions are normal. He’s had a slight headache since admission but is not subject to them. No vertigo.
Tactile sensibility, vision, hearing, taste smell, all perfectly good.
Treatment and Progress

May 2nd. Admitted complaining of pain in the back, front of the chest, shooting through to the left shoulder and down the left arm. He was put to bed, given a light diet and given 12 Lq Arseniealis m ij
Pot lodidi gr x. T.D.

There is nothing of exceptional interest in the further progress of the case. Patient complained of pain for a week or two which was severe enough to keep him awake at night. He worried a great deal about getting back to his work but was otherwise cheerful. He states he can easily get a lighter job driving a drilling machine where he can sit down most of the day.

About May 14th, he had rather a troublesome cough and was given Brompton mixture.

About May 26th the pain gradually went away and patient got up for a few hours daily. Laterly the pain has gone away completely, although there is no improvement in his voice.

He left the Infirmary on Friday June 9th feeling much better and with all the pain
entirely away. He has promised to return on the slightest suspicion of danger.
Notes

This case is a very interesting one as illustrating aneurism of the thoracic aorta of a fairly definite type. It presents practically all the classical symptoms with the exception of the "gander cough" "leopard growl" which are comparatively rare. The late Prof. Saunders divided them into 4 groups viz.,

1. With no pressure symptoms but physical signs.
2. With no physical signs but pressure symptoms.
3. With both.
4. With neither.

This case affords a good example of the 3rd variety.

The symptoms and signs will be taken seriatim so as to bring out the important features.

Age & Sex

Most common in men in the proportion of 10:3 between the ages of 40 & 55. This agrees with the patient's age.

Distribution

It is more common in S1 Britain than on the Continent, but race, locality, etc.
not as important as the prevalence of syphilis among hard working members of the community.

The great frequency of aneurism in the British army demonstrated some years ago by Myers Welch still continues, it is explained in all probability by the great frequency of syphilis.

Dr. Drummond of Newcastle states, that the lime district is the "home" of thoracic aneurism, he frequently having 6 cases at the same time in his wards. He moreover, believes that the importance of occupation as a causal factor has been overstated, as he is only able to get a history of heavy work strain in half of his cases, although in a hard working district. 90% of his cases, however, had a syphilitic history & this is interesting as confirming the old views of Paré & Morgagni.

There is no doubt, however, that the two essential features in the causation of the disease are:-

1. Weakness of the vessel wall due in most cases to syphilis and,

2. Increased pressure inside, due in most cases to heavy work, overstrain etc. & to these a third factor materially assists, viz., excessive indulgence in alcohol. Dr. Drummond found
a decided history of alcohol in 50% of his cases. Black possesses all three features to a marked degree. He has had a strenuous, roving, life, has worked hard and drank hard, thus had syphilis. His occupation is one involving great muscular effort, and his position as "trainer" in Ireland and South Africa has laid him open to many falls and sudden strains, although he is not to make light of the fact. Moreover, for a period of several years his indulgence in whisky has been abnormal, even for a man of his class.

Pain. This was the reason why patient sought medical advice, the pain also being almost unendurable. It was situated chiefly in the front of the chest and radiated down the left arm.

Pain due to aneurism has been divided into two classes; viz:—

1. *Aneurismal*, worse during the day, aggravated by exertion generally down both arms, and relieved by rest.

2. *True Aneurismal* pain, worse at night, rarely down both arms, and relieved by change of posture.

It was of the latter type that patient was suffering.

In explaining the pain however, the nerve supply
of the arch is its connection with the spinal nerves must be remembered. The arch is supplied by sympathetic fibres which come from the cervical ganglion which in turn communicates with the spinal nerves. To explain the distribution of the pain it may be assumed that irritation passing from the arch along the sympathetic fibres is referred to the sensory distribution of the corresponding spinal nerves.

Along with this however, there may be pain of a "gnawing" character due to direct pressure on the sternum which may later lead to erosion of the cough.

The harsh, grussy, gander, cough, the leopard growl due to pressure on the trachea, are absent, but this may possibly be a later symptom at present, his voice is husky & he has a hoarse cough.

Subcutaneous Edema

This is not very obvious, but is best seen at night when the electric globe accentuates the normal lights & shadows.

Auscultation

The accentuation of the 2nd sound is a common symptom & is well marked here. It is heavy, dull, thudding or drum-like, etc.
heard over a very considerable area both at the
front and back of the chest. There was occasionally
a slight systolic bruit but this disappeared in
a few days. A continuous rumming-top
murmur with systolic intensification is supposed
to be diagnostic of a communication between the
sinuses or of the large vessels or chambers of the
heart.

Pressure Symptoms.

The dilatation of the pupils
commonly present due to pressure on the cardiac
branches of the sympathetic was not evident.
The hoarseness though however shown, that the
left recurrent nerve has been implicated.
Examination shows that the left vocal cord
is in the cadaveric position, both abductors +
adductors being paralyzed. This is a fairly
common complication, but is not always so
well shown as in this case.

Occasionally, spasm of the larynx with strong
breathing takes place, but so far it had
not troubled the patient.

The presence of the network of dilated veins on the
front of the chest and left arm is probably explained
by slight pressure on the Superior Vena Cava.
although this is usually better marked in mediastinal growths of another nature. 
the respiratory system is so far unaffected, 
as there are no signs of pressure on the bronchi. 

Tracheal Ingurgition.

This was specially well marked although not visible occasionally one finds difficulty in eliciting this symptom due to pulsation of one of the arteries at the root of the neck generally the superior laryngeal.

Attention has also been called to the presence of a blowing sound heard when the stethoscope is placed over the trachea ("tracheal whistle") or sometimes over the open mouth ("pulse breath") they were not evident in this case.

Pulse.

The remarkable difference between the two pulses is evident from the tracings. The right pulse is fairly normal, but the characters of the left pulse show striking differences. The upstroke is more sloping, the height is less, the summit of the curve more rounded, the downstroke more gradual. So with pulsation, the pulse feels smaller, its more compressible, in fact, as Sir Wis Broadbent aptly states, it is more or less "smoothed down"
The case thus presents features so striking that the diagnosis is a matter of comparative ease, but in other cases it is often a matter of difficulty and then great assistance is rendered by a fluoroscopy of the chest taken in various positions, e.g., anteroposterior, and lateral. A fluoroscopy was taken in this case and confirmed the diagnosis.

As regards treatment, probably few diseases have been the subject of so many varied experiments, both medical and surgical, as thoracic aneurism, and many suggestions have been made, only to be discarded as being unsatisfactory, especially those referring to local treatment, needling, electrolysis, etc. So far the most satisfactory form of treatment appears to be a modification of Muirhead's "rest extermination" method whereby the food and drink of the patient is restricted to the lowest possible amount consistent with the general health and comfort. This was the method adopted and was very successful in alleviating the distressing symptoms. Strict rest in bed for several weeks was enjoined and the patient was put on a light diet and given isotonic and the fluids were reduced in quantity. Gradually he was allowed up for a day or two.
in a chair or reclining on a couch. He was allowed to walk about for an hour or two until finally he was up for the better part of the day. His pain gradually disappeared. He felt quite strong, but there was little improvement in his voice. The symptoms however, may return but if the patient gets a lighter job as he promised to do, he may live for a considerable time in comparative comfort. He is a very sensible man and quite understands the wisdom of rest and avoidance of anything like hurry or overstrain.

An absolute cure by the deposition of layers of coagulated fibrin within the sac and subsequent organization sublimination of the sac is not very often obtained, as it depends to a great extent on the size, position, stage of the dilatation, the time patient can afford to lie up, but with rest and proper medicinal treatment good results are often obtained. The amount following on the administration of K.I. is often very striking although the action is difficult to explain. Balfour thinks it is due to a special influence exerted on the wall of the sac causing thickening or contraction but however this may be it certainly lowers the blood pressure.
so favors contraction of the sac by relieving tension within it.

Calc has been suggested as increasing the coagulability of the blood & good results have been reported.

As regards local treatment the methods are legion, but the following appear to be the chief ones suggested.

1. Aiming at aiding the coagulation of the blood in the sac by electric current, introduction of foreign bodies, watch springs, iron & silver wire, but the results have often been disastrous.

2. Production of so-called "white thrombi" recommended by Dr. Macben (British Med Journal, Nov 1890) by irritation of the wall of the sac by the point of a pin introduced with all aseptic precautions.

3. Administration of ergot in large doses (Silson) hypodermic injections of ergotin (Langenbeck) & this was supported by Sir Wm. Broadbent who stated that ergot given in large doses diminished the volume of the aneurism greatly lessened the pulsation.

4. Subcutaneous injection of gelatinized
Name: James Lothian
Age: 16
Single
Occupation: Miner
Native Place: Balinton
Present Address: Humble Homes, Humbie
Recommended by: Dr. Craig
Admitted to: Ward 34
Complaint: April 11th, 1911
"Pain and swelling of the abdomen diarrhoea."

Complaint:
History of Present Illness.

Patient is an orphan and was at Dr. Guthrie's School, Liberton, up to the age of 16 years where he left to become a farm servant 2 years ago at Humble Home. Five months later he commenced work as a miner in Dalkeith but had only worked there five weeks when his left foot was accidentally scalded by boiling water, the was conveyed to Inveresk Hospital. Here he remained for 6 weeks where then discharged with the leg cured. On returning to his lodgings he was suddenly seized with intense pain across the abdomen causing him to be doubled up and after a day or two in bed decided to return to Inveresk Hospital. This was the first experience of pain in the abdomen and at that time there was little or no swelling to be noticed.

He remained in Hospital for 4 months, being treated there by a milk diet withings of "some oily stuff". He was then removed to a sanatorium at Craiglockhart for 3 months receiving cod liver oil and milk daily. There was now a slight improvement, he was put to work in the stick house for a fortnight...
but before this time was completed he was again 
afflicted with a severe pain across the abdomen 
that he had to be carried back to bed where he remained 
3 weeks. He was given castor oil by the Dr 
but without much benefit.

During the whole of this time his abdomen had 
been slowly swelling the pain was rarely absent 
Moreover, he had frequent relapses.

Last summer he was sent to the Church of 
Scotland Home at the Bridge of Allan, there he 
remained 4 months working chiefly at light 
jobs in the garden. For the first 5 weeks 
he did well but then had another attack 
to go to bed was again given 
caster oil by the Dr called in.

During the remaining months he was several 
times compelled to return to bed + in the 
meantime was transferred to work in the 
Kitchen to obviate any risk of catching cold 
outside.

Feeling rather better he returned to Dalkeith in 
April of this year to resume work in the pits 
but had only worked one week when the pit 
closed he returned to Dumbie. He was 
only here a week when another attack forced
him to retire to bed. He was seen by Dr. Brown who advised him to come to the Infirmary. After 4 days he was conveyed here in the ambulance and admitted on Tuesday, April 11th.

**Previous Health**

Had measles when 13, was treated at Skelton Hospital.

No history of Rheumatic Fever.

Syphilis or Gout.

Head was cut by a falling brick when at school, but recovery was complete.

Was caught cold several times due to his occupation (passages of the mine were wet) thus had a slight cough for some time. He gives a vague account of his expectoration being sometimes tinged with blood.

**Social Conditions + Habits.**

When at school patient was fairly healthy and quite contented.

At 12 years of age he was put to work in the kitchen to scrub, clean, and give out food.

At 15, he was removed to the laundry room to darn socks and mend clothes.
At 16, he was transferred to the laundry, washing clothes. Later on went to Humbie.

During the whole of this time he had plenty of good food, exercise, fresh air.

The food consisted of porridge for breakfast, soup and bread for dinner, coffee and bread for tea, with meat and potatoes every Tuesday. The food was plain but there was plenty of it.

He had no pain or trouble with his abdomen whilst at school.

When working in the pit, however, he was frequently wet through as his work consisted in pushing trucks along narrow passages where water was continually falling on him from the roof. So this he himself attributes his cough and sudden onset of abdominal pain.

He used to smoke 40 to 50 cheap cigarettes each week but has lately given it up.

Is not addicted to the use of alcohol.

**Family History**

Very meagre. Neither parent known.

Was brought up at Dr. Guthrie's School.

Has 1 sister, age 17, in nurse at Blairgowrie, who was also brought up at Dr. Guthrie's girls' school.
who is in good health.

No brothers nor other relatives known.

Present Condition

1) General.

Patient is a poorly developed youth with a flat chest, but 5 ft. wt. 11 stone but is losing weight. The muscles are only fairly well developed; there is little or no subcutaneous fat. The whole body is beginning to show signs of emaciation; the cheeks are hollow, the chest poorly clad, the eyes give rather a hunted expression to the face.

He is confined to bed usually lies on the right side, but can lie on the left or on his back without inconvenience.


2) Skin & Subcutaneous Tissues

Hands show signs of manual labour: the finger nails are brittle, short, dry & show evidences of much biting. There is no clubbing of the fingers. The skin, as a whole, is dry.

Patient perspires a little at night without in the morning with hair of forehead quite wet. He perspires little from the rest of his body.
There is no sign of skin eruption but the veins of the chest are very prominent. There is however no caput medusa. No signs of Jaundice.

The lips and gums are normal in colour but the sclerotics have a distinct bluish tinge. There is no evidence of oedema in either eyelids or ankles nor in any other part of the body with the exception of the abdomen (q.v.).

There are no external marks to indicate Syphilis, no Hutchinson teeth, etc. No trace of skin disease rheumatism or gout.

The patient moreover, has a decidedly deroofous look.

3. Haemopoietic System.

There are no enlarged lymphatic glands to be made out anywhere.

Spleen & Thyroid normal.


Subjective.

Appetite is good but always been so.

Suffer very much from thirst so allowed a cupful of water every hour.

There is no difficulty in swallowing & patient
Patient can only remember vomiting twice & both times he attributes it to a hard day's work & getting a chill. No haematemesis.

He however, often has a feeling of being "blown up" but does not vomit. This appears to be worse before meals. Much flatus appears to be passed at stool. There is no true flatulence but fluid is brought up as far as the back of the throat only to go down again. This occurs about 1/2 hr after food & very constant.

In the last 6 months patient has been greatly troubled with excessive diarrhoea, having as many as 8 motions in the day & 3 at night. They were of a very watery character, of a brownish colour and spotted with blood. There was no apparent relationship to meal times or food. During the act of defecation there was considerable gripping pain across the abdomen. The evacuation of faeces did not bring much relief. There was no pain of the rectum except that due to the excoriation caused by the frequent passage of watery stools, which smelt badly. Before the diarrhoea patient was very constipated. Was given sulphur and treacle by the superintendent of Hambie, which relieved him considerably. There was little passage of flatus except at stool.
Objective

Patient's tongue is easily protruded in a straight line, no or a deep reddish tinge & ululation.

She feels one in four condyloma. Burning sensation in the lower jaw. Gums are

absence. Edentulous. Teeth are missng. One molar broken off at the gum. No

Edentulous. Healed. It is seated. Erythematous. Integrity & one molar broken off.

Patient complains of one side sore. The gums rows are normal...
Objective

The abdomen is considerably and uniformly distended, the hollow below the ribs being obliterated along with the linea semilunaris. It measures 34" in circumference at the umbilicus. There appears to be no special bulging except that perhaps the swelling is a little more pronounced in the right flank. There is no rash nor pigmentation, but there are several dilated superficial veins. The surface is smooth and glossy. There are no striae.

The abdomen moves normally on inspiration and expiration but owing to the great distension the movements are limited and rather rapid, the breathing therefore is chiefly thoracic. No pulsation in the epigastrium visible. The umbilicus is
flush with the surface, of a darker colour but there is no excoriation.

**Percussion.**

There is a great increase in the natural tension and resonant of the abdomen being as tight as a drum. On account of this distension it is very difficult to make out any of the underlying structures, but there are no areas of definite resistance, no masses palpable. There is no tenderness at present, as far as one can make out there is no thickening and no palpable tumour, no splashing in the neighbourhood of the stomach. There are however palpable waves felt when the left hand is placed flat on one side, the other side smartly slapped with the middle finger of the right hand. There are no visible waves and no patterns of rigid spasm. The distension is chiefly gaseous.

**Percussion.**

Note is tympanitic all over with the exception of slight dullness in each flank when patient is on his back, when on his right side the left side gives a tympanitic note twice versa with the patient in the genu pectoral position and percussion upwards there is dullness for an area of about 3" on each side of the umbilicus. The stomach and ileum cannot be percussed owing
to the great distension, the lower dullness is also much obscured. There are no patterns of tympany.

**Circulatory System.**

Patient does not suffer from cardiac dyspnea nor palpitation nor has he ever fainted. Pulse: 90 per min. regular but rather weak. Sudden rise & fall after fairly well sustained. No cheyne-stoke.

Arterial tension is rather low, registered by the sphygmomanometer = 90°.

There is no arterio-sclerosis & no tortuosity.

The radial pulses are equal & synchronous.

**Physical Signs.**

Nothing on inspection except a few dilated veins. Apex beat is situated 1″ below & ½″ internal to the nipple in the 5th inter space 3½ ″ from the mid sternum. Heart sounds are normal in all areas but rather faint. Superficial heave dullness normal.

**Respiratory System.**

No difficulty of breathing. Resp 24 per min. No pain in the chest but a tight feeling on coughing.
Patient has little cough now but was troubled with a great deal when at Dumbie. It used to keep him awake at nights the got some "redash stuff" from the master which used to send him to sleep. Expectoration was copious, of a greenish tinge and slightly tinged with blood; had a funny taste. Chest is flat and poorly developed and there are signs of emaciation. The skin is of a very whitish transparent colour and covered with a network of dilated veins. The supra and infraclavicular fossae are very large. The chest measures 30 in. with 31 in. expansion. The movements of the chest are normal, the breathing is chiefly thoracic of the shallow variety. There are no abnormalities of movement. Expansion on both sides equal. Vocal fremitus normal. Percussion: Resonant all over with the exception of a slight dullness at the right apex. Auscultation: There is a suspicion of prolonged expiration below the right clavicle and a few rhonchi but no crepitations. The vocal resonance is also slightly increased more so on the right side especially noticeable in whispered speech. Elsewhere the breath sounds are vesicular in character.
Genito Urinary System:

Micturates only once or twice a day now.

Wakes once to do it during the night. No dribbling.

Amount of urine per day = 1/2 oz. No pain.

Specific gravity 1040. Acid. No albumen.

No sugar. Chlorides normal.

Nervous System:

Patient is very intelligent and has a good memory. He sleeps fairly well during the day but does not sleep well at night sometimes being kept awake by the pain.

All reflexes are normal.

Sensory functions.

Patient feels well but for the pain in very bright, cheerful, no vertigo but used to suffer very much from headaches.

Vision normal but complains of a dull pain behind the eyes.

Hearing, taste, and smell, perfectly normal.
Treatment and Progress.

On admission patient was put to bed and put on a milk diet, being given boiled milk only or water. As he complained constantly of thirst he was allowed water every hour. He was given a soap and water enema every morning and evening for the first few days and every evening subsequently. Several times he was given castor oil.

The front of the abdomen was painted with iodine and afterwards rubbed with oil. This was repeated every other day (Heals foot oil was used). Later he was given Cod-liver Oil maltine. This was continued until he went away.

13. given T. 1 D. p.c.

April 30th. The diet was put on a higher scale, but bread was excluded. Patient had only a fair night the pains being bad.

Ven Prusqueti test for Tubercle was done on the right arm.

April 31st. Again painted with iodine. Patient had a bad night, slept only from 9 - 12 p.m. from 3 - 4 a.m. Looks very pale and tired. Appetite still good. diarrhoea is disappearing. Cough still present but no expectoration. No tenderness nor pain at present.
April 24th  Patient had a bad night & got very little sleep. Now complains of pain in the groin but there is nothing evident on inspection and palpation.

Abdomen painted with iodine.

Pus in Pleuresal test positive.

The abdomen feels slack, but the amount of fluid is slowly increasing. The area of tympanitic is confined to an area round the umbilicus extending for about 4" all round.

Patient vomited yesterday about 2 o'clock p.m. immediately after having his soup but states that it was chiefly his dinners that came back.

April 25th

Feels quite comfortable. Had a good night's sleep. Takes his food well.

April 26th

Slept all night. No pain. Feels quite comfortable. Swellness now over practically the whole of the abdomen. Painted.

April 27th

Had a very poor night being kept awake by the pains which were short & prickling in
character keeps moving as he states "backwards + forwards like a needle". Appetite still good. Books tired + meatsy this morning but very cheerful.

April 29th. Had a good night no pain. Abdomen painted + feels much slacker. Cough he states is improving. Complains of the skin feeling itchy + urino show signs of scratching.

May 1st. Slept all night. Is getting cod livers oil and malleine daily.
Abdomen painted with iodine. Axillary are very itchy the skin is very dry. Still sweats a little at night. Fluid in abdomen slowly increasing.

May 3rd. Nothing to report.

May 4th. Complains of feeling dizzy + has a pain behind the eyes at night. Takes his food well. Still has enemas every morning. Had a sharp shooting pain last night in the left side of the abdomen which lasted for 1/2 hour + prevented him from sleeping.
Abdomen is getting tighter + he complains of it feeling awfully heavy.
May 5th. Slept well. no pain. Slight a little dizzy in the morning which gradually passed away. Skin of abdomen very dry, itchy + scaly.

May 6th. Continues to do well but abdomen is getting tighter.

May 10th. Dapped + 96 oz of turbid fluid obtained. He felt much easier in the evening.

From here onwards there is nothing of further interest. He slowly but surely began to improve. His abdomen measured 30" + remained stationary. The pain left him. This abdomen was quite flaccid. There were no matted coils of intestine to be made out on palpation and no marked masses or glands. He was allowed up part of the day + although he still found some difficulty in breathing his waistcoat was otherwise quite well. His cough + pain disappeared this temperature became quite steady. thecury being almost gone. He left the Infirmary very much improved + went back to Stumble where he hopes to get a position consistent with his condition.
<table>
<thead>
<tr>
<th>Name</th>
<th>James Silbald</th>
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<tbody>
<tr>
<td>Age</td>
<td>51</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married (4 children)</td>
</tr>
<tr>
<td>Occupation</td>
<td>Rubberworker</td>
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<tr>
<td>Native Place</td>
<td>Edinburgh</td>
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<tr>
<td>Present Address</td>
<td>225 Morrison St, Edin.</td>
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<tr>
<td>Recommended By</td>
<td>Dr. Murdoch Brown</td>
</tr>
<tr>
<td>Admitted to</td>
<td>Ward 34</td>
</tr>
<tr>
<td>Date</td>
<td>2nd Dec 1910</td>
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</table>

Complaint:—

"Swelling of the abdomen, legs and feet".
History of Present Illness

Patient was under Prof. Wylie in 1897 suffering from acute nephritis when he left hospital. He had still traces of albumin & blood in his urine. He has however remained well thus far following his occupation, this exposes him to great change both in atmosphere, temperature & exposure to cold particularly has incited an attack. He has had several minor attacks which he has treated himself by stopping his meat and taking a milk diet with more or less success. Altogether he has been in hospital 4 times that year was under it 6 times for the same complaint. His abdomen was tapped & a large quantity of fluid withdrawn but his abdomen then was not so large as it is now. All though these attacks his ankles have swelled to the same extent as now but it gradually passed away again. He had also pain across his back & his water became thick pearly coloured.

He blames this present attack on a cold which he contracted about a month ago through going suddenly from the heated atmosphere of the work shop into the cold without taking sufficient precautions. Then his abdomen began to swell
the had pain from side to side. He went to bed there, but his usual treatment was ineffectual, the swelling continuing to increase both in abdomen legs, so he decided to come into hospital was admitted to ward 34.

**Previous Health.**

Apart from the nephritis the attacks referred to patient has always been a healthy man.

He had measles whooping cough when a child.

**Social Conditions.**

Has a fairly good home with 3 rooms and plenty of fresh air sunlight. Does not drink much milk ever tobacco that required for his tea coffee. His food is plain but good he gets plenty of it. There is no history of syphilis nor of any venereal trouble.

He is not addicted to the use of alcohol only taking a glass of beer occasionally and even thus he has left off for the past 4 months.

Smokes 1 oz of tobacco per week.
Family History.

Father died at 42. Lead poisoning.
mother alive well.
2 sisters " "
3 brothers " "
3 died in infancy.

Present Condition.

Patient is a very thin, poorly clad man of about 5'6" in height weighs about 90 stone 5lbs. He is pale and tired looking this face has rather a haggard look. His abdomen is greatly uniformly distended and there is great swelling of his feet, legs, thighs.

His chest and arms show up in marked contrast to his swollen lower extremities.

His abdomen measures 40 1/2" in circumference at the umbilicus.

He is confined to bed.

Temp 100°. Pulse 96. Respiration 28.

Skin: Subcutaneous Tissues.

Patient perspires very freely at night.

There are no eruptions, no jaundice or lividity.

There is a distinct pallor of the face & body & the
Mucous membranes conjunctivae are pale.
There is great oedema of the abdomen & lower extremities. There are no signs of syphilis or T.B.

Hemopoietic System.

There are no enlarged glands in axilla or groin.
Spleen & Thyroid normal.
Blood is normal.

Digestive System

Appetite is fair. There is no excessive thirst. No difficulty of deglutition. There is no pain after food, only a slight feeling of discomfort.

No vomiting. No heart-burn.
Gaseous emetations or water-brash.
Patient has neither diarrhoea nor constipation; bowels move quite easily once a day. There is no obstruction.

Objective.

Tongue is fairly clean. Slight fur, it is reddish broad & protruded in a straight line. Teeth are very bad; several missing.
on both upper lower jaws. Rest are decayed. Gums, fauces & pharynx normal.

Abdomen. Inspection. 

Greatly uniformly distended with obliteration of subcostal groove. There are many dilated veins on the surface radiating out from the groin up the sides & also across the front. It measures 40½" in circumference at the umbilicus which is slightly depressed.

Palpation.

Owing to the distension it is hard to make out anything abnormal. There are no tumour masses palpable. No tenderness & no pain. There is however a distinct thrill felt on testing for fluctuation & on flipping on one side a distinct wave is transmitted to the other.

Perussion.

There is dullness all over, especially in the flanks the only part giving a resonant note being an area reaching from 1" above the umbilicus to the xiphisternum. When the patient is turned over on to the right side there is a small area giving a tympanitic note on the left side & this area disappears on lying on his back.
As far as can be made out the stomach is not dilated, the other organs cannot be percussed out.

**Circulatory System.**

There is some shortness of breath & slight palpitation. There is no faintness nor pain.

Pulse 98 per min., regular in rate rhythm forcefulness moderate. Rapid rise & fall after moderately well sustained. no diastole.

Arterial tension as registered by Kino
Row = 140.

The coats are a little thickened but there is no tortuosity.

Radial pulses equal synchronous.

**Inspection.**

Nothing to note.

**Palpation.**

Aper beat is situated in the 5th interstice 1" below & ½" internal to the nipple. 3½" from mid sternum.

**Auscultation.**

Heart sounds quite normal.
Percussion:

- Right border = mid sternum.
- Upper border = 3rd c. cartilage.
- Left border = down to the apex beat in 5th space.

Base line = 3½".

Superficial dullness is less than the deep dullness by 3½" all round.

General circulation:

- Fairly well sustained. No cyanosis.
- No edema of eyelids. Edema of lower extremities.

Respiratory System:

- Patient has some shortness of breath but has no pain. He has no cough. No sputum.
- There is no obstruction to breathing.

Chest is not well developed. It is rather flat. There is slight emaciation.

- Circumference = 34". Flat. No local bulgings.
- Respiration 20 per min. Chiefly thoracic in type. Abdomen moving slightly but quite regular.

Inspection of parts outside chest is normal.
Expansion fair equal on both sides. Vocal fremitus normal.

On percussion note is resonant all over no hyperresonance no areas of dullness.

Breath sounds vesicular no accompaniments. Vocal Resonance normal.

**Nervous System.**

Intelligence good memory well sustained. No headaches. Sleeps well
Motor sensory functions healthy. Reflexes normal.

Eye sight hearing smell taste good.

**Genito Urinary.**

No frequency of micturition no pain. Has full control.

Urine scanty only 10 to 20 ozs per day.

Slight trace of albumen. No blood. no sugar.
Treatment and Progress.

When admitted the abdomen was greatly distended with fluid measured 40 2/4" at the umbilicus. Patient was very uncomfortable, his breathing being affected so that he could not lie down in bed. There was a marked thrill present & dullness over the whole of the abdomen. His temp was 100°. He was put to bed & the next morning was tapped with Southey's tubes & 396 ccs of fluid removed. He felt much easier at night. Nothing could be felt on palpation but a peculiar doughy mass in the epigastric region. There was a great deal of edema of the legs reaching up to the thighs. Later, his abdomen was rubbed with warm foot oil. Then was given boot liver oil & malmure. He was given a light diet & food painted over the abdomen in two strips one at each side, leaving the umbilicus & middle bare.

In giving the subsequent history only those points of importance are given since between the dates mentioned patient was eminently well & nothing abnormal happened.
On the 8th Dec 10. a week after admission patient was tapped again & 280 c.c. drained off. He felt much easier after slept well.

On the 19th Dec. again tapped & 300 c.c. removed abdomen painted with iodine.

23rd Dec. Temperature went up to 100.4 this morning patient was sick vomited dark greenish matter. He had also considerable diarrhoea & feels very weak & collapsed.

24th Dec. Diarrhoea again very severe & he was given some substrate without much effect. Looks very weak & ill. Pulse is rapid & feeble 120 per min. Temp is up to 101°. He again vomited.

25th Dec. Diarrhoea still persisting. Has been given chalk mixture with opium.

27th Dec. Diarrhoea checked but still feels very sick & weak. Temp is going down pulse is improving.

4th Jan 1911. Abdomen measures 37". There appears to be a swelling in the epigastrium & its lower border can be felt. It is difficult to make out owing to the fluid present.

12th Jan 1911. Abdomen gradually coming down measuring 23½". The mass in the epigastrium
is felt quite distinctly now. It is hyper tympanitic.

- gives the highest note on percussion. Its lower
margiin can be felt quite distinctly stretches
across the abdomen in the epigastric region.

Sure is resistance felt in the right lumbar region

12th Jan 1911. Friction can be heard over the
projecting viscera. The intestines can be felt on
pulbation. A stomach tube was introduced
into the stomach but the viscera did not collapse

23rd Jan 1911. Abdomen is now fairly normal
measuring 31". In the left iliac fossa hard
masses are felt to a less extent all over the
abdomen. Doughy lumps can be made out.

25th Jan 1911. Viscera below left costal margin
is much smaller.

1st Feb 1911. In the right lumbar region, three
distinct coils of intestine matted together could
be felt. Weight 90 to 91 & 1/2 lbs

10th Feb 1911. Improving steadily. Weight 90 10 lbs

11th Feb 1911. Still improving. Friction still
heard over the abdomen. Viscera disappeared
but coils of intestine still readily made out.

Slight trace of dropsy in ankles.

20 Feb 1911. Weight 90 1/2 lbs.
10th March. Improving steadily, taking food well
swelling on weight. Abdomen measures 32".
Infection still to be heard. Coils of intestine
still palpable.

14th March. Got up today for the first time.
Feels rather shaky, but otherwise quite well.

16th March. Had to return to bed for a few
days as his ankles again began to swell.

4th April. Swelling entirely disappeared.
Feels quite well, and went home today.

N.B.

A fortnight later patient was
shown to the clinique by Professor Wyllie.
He had kept quite well, there was no
reoccurrence of symptoms.
Name: Elizabeth Irmlayson

Age: 13

Occupation: Single

Place of Birth: Edinburgh

Present Address: 13 Clarke St, Edin.

Recommended by: Dr. Bruce

Admitted to Ward 24

Date: May 5th, 1911

Complaint: Great loss of weight
Diarrhoea
Pains across the abdomen
History of Present Illness

Two years ago patient became very listless and uninclined to play. She then lost the power of her right hand and could not do anything with it for which she was punished at school for malingering. She went to the Sick Children's Hospital where she was examined and told to come back in a week if no better. She however, was sent to Dumbie for 10 months (Feb 1909 to Dec 1909) where she greatly improved. She returned home and went back to school where she was comparatively well for a time.

Early the following year she again had twitchings of her right hand and went to see Dr Matheson at Richmond St. Dispensary. She got some medicine and the hand soon became right again. She continued fairly well until Feb 1911 when she was very ill again with pains across her abdomen and weakness. She went back to Dumbie and about March commenced to have diarrhoea. This was very pronounced having to go 3 times a day and often twice at night. The stools were watery and smelled badly. She diarrhoea continued up to admission of patient and rapidly lost weight.
Previous Health.

Had Measles + Whooping Cough when a child.
Had no other illness except the affection of the right hand already mentioned.
Was always able to play about with other children previous to this illness.

Social Conditions.

Lives in a ground floor flat with 2 rooms which is shared by 8 brothers / sisters, their mother.
She states that she gets a fair amount of sun & plenty of fresh air. She has been fairly regular in her attendance at school.
She took her food quite well before admission when she had nothing but milk & toast for about a week. Her mother also gave her brandy to ease the pain. She is very fond of milk & took a great deal of it from the dairy. It was not boiled before drinking.
Her food was of the ordinary kind, tea, bread & butter, an egg for breakfast, meat & potatoes not very often no supper.
No stimulants except the brandy given to her by her mother.
Family History.

Father dead at 45. Does not know cause.

Mother alive well

3 Sisters alive well

4 Brothers

There is no history of consumption or abdominal disease in the family.

Present Condition and General

Patient is a thin, poorly developed girl showing extreme emaciation. Every rib stands out prominently, and the bones seem to be almost coming through the skin. There are large pustae and infraclavicular hollows. The face is thin and pinched, the cheeks hollow. The chest only measures 23" round the nipples and the can only expand 5". The biceps only measure 4" in circumference. The legs and thighs are almost devoid of flesh.

She is 4'3" in height and weighs only about 3 stones.

Her expression is intelligent and lively but she appears to be suffering from pain.

She is confined to bed.

Temperature 99° in the morning and 96° evening.

(See copy of temp chart)
Skin Subcutaneous Injuries.

She sweats a little at night. There are no skin eruptions, no jaundice, the lips, gums & conjunctive are very pale, there is no ininity, no anapexy, no external marks to indicate Syphilis or Tub. Patient looks however distinctly phthisical.

Lymphatic System.

There are no enlarged glands in the neck or axillae. Spleen & Thyroid normal.

Examination of blood shows R B C's slightly diminished, W 3,50,000 no. Leucyctosis.

Digestive System.

Appetite is good but she is very thirsty.

There is no difficulty in swallowing.

She complains of a dull aching pain across the front of the abdomen & in the epigastric region. There is no point of maximum intensity. The pain has no relation to the taking of food. Occasionally there are sudden attacks of acute pain causing the knees to be drawn up, the abdomen is then tender on palpation. Otherwise there is no pain on gentle pressure.
She has never vomited & there are no crampations. 

heart burn not water brash

She had however before admission excessive diarrhoea 
go to stool 3 times in the day & 2 + 3 times at night. There was no relation to food. 

During the act of defaecation there was considerable gripping pain. The stools were very watery, of a yellowish colour & had a very bad odour.

There were no streaks of blood, although according to the patient's statement, but she did not take particular notice. 

No constipation

The tongue is pale red in colour, broad, & fairly clean. The teeth are plentiful but very dirty. The gums are pale & the fauces are sharp not normal.

Abdomen is only slightly distended there are no dilated veins. The sub-costal grooves are almost obliterated. There is no bulging of the flanks. It measures 28" at the umbilicus. 

It moves normally with respiration & there is no epigastric pulsation.

Pulsation.

Abdomen is tense slightly resistant. There are no masses palpable & no thickening.
to be made out, and there are no abnormal swellings.

**Perfusion**

Liver not enlarged, stomach is not dilated. The note is tympanitic over the abdomen with the exception of slight dullness in the flanks. When the patient is lying on the left side the right side gives a tympanitic note twice vento.

**Circulatory System**

There is no shortness of breath, no precapitation, no pain in the chest.

**Pulse** 100 per min. regular in rate, rhythm weak, not very full. Sudden rise of fall taper moderately well sustained no decretism.

**Blood pressure** is below normal, the pulse being easily obliterated.

**The coats of the arteries** are not thickened nor tortuous.

**Radial pulse** equal, synchronous.

**Physical Signs**

With the exception of the extreme emaciation there is nothing to be seen on inspection.

Aperic heat is situated in the 5th intercostal
1" below + 1" internal to the nipple. 2½" from the middle line.

Auscultation

Heart sounds are closed in all areas.

Percussion

Superficial cardiac dullness extends from the mid-sternum up to the lower border of the 4th rib. Down and out to the apex beat.

The deep dullness extends:

Right Border = ½" to right of mid-sternum
Upper Border = 3rd intercostal space
Lower Border = down and out from the 3rd intercostal space to the apex beat.

At the 5th costal cartilage, from the right border to the apex, the apex beat measures 2½"

The general circulation appears to be normal.

Respiratory System:

Patient has no difficulty with her breathing, no pain, cough, nor expectoration.

Inspection

The chest is very poorly developed and badly clothed with muscle. There is no fat and all the ribs stand out prominently. There are very large supra, infra-clavicular hollows
The bones of the shoulder girdle are very prominent.
It measures 22½" at the nipples with 1" expansion.
It is a very flat chest there are no local
alterations in form.
Respirations are 24 per min. regular.
Abdomino-thoracic in type. They are very shallow.
Inspection of parts outside the chest is normal.
Expansion equal on the two sides. V. Auscultus normal.
Note is resonant all over, no areas of dullness.
Breathing is not particular and there are no
accompaniments. Vocal resonance normal.
Larynx quite normal.

Genito-Urinary System

Nothing abnormal.

Urino 24 - 30 oz. per day.

Specific gravity. 1014.

No albumen. No sugar.

Patient has not yet commenced to menstruate.

Nervous System:

Intelligence memory. Self-control good.
No disorders of speech.
Sleep is not very good. Being kept awake by the pain at night, sometimes sleeps during the day.

Motor functions are quite normal.

Knee jerk is present, no ankle clonus.

The plantar reflex is flexor.

Sensory functions normal.

No headache, no vertigo. Dactyle & special senses quite normal.
Treatment & Progress

Admitted April 28th, was in a very feeble condition, weighing only 22 at 11 lbs. The temperature was 94°, pulse 60 per min. + very feeble, respirations 16 per min. She was put to bed & given a light diet with linseed, codliner oil, smalline & T. & P. cycle. Her abdomen & chest were rubbed with mentholated oil.

May 1st: Has been sleeping well & is comparatively comfortable, has occasional pains across the abdomen, temperature has remained normal since admission. Takes food fairly well & cod-liver oil. Bowels are still loose.

May 15th: Temperature has developed a marked swing, the pulse has also increased but the respirations have remained stationary. She is still fairly comfortable & regards food & sleep. The bowels are getting more regular. Abdomen still being rubbed with oil. Measures 21" at the umbilicus.

May 6th: Not much improvement, greatly resents cod-liner oil now & it has been stopped
May 8th 1911. Temperature still swinging but at a lower level, very little improvement. She has been out on the balcony for some hours & the face is getting sunburnt. Abdomen = 22½ in still some pain.

May 12th 1911. She is not doing well, she is not inclined for food & is getting no better. She is also more irritable. The pains are getting more marked & she has little sleep. The pulse continues to be rapid & the temperature to swing.

May 19th. Her condition is gradually getting worse. Pain is not diminishing. She is not taking food & is losing weight.

May 22nd 1911. Much worse, sleep disturbed with abdominal pain, is restless & irritable. Has been getting chlorodyne to remove the pain.

May 25th. Died this morning, she has gone back rapidly & has hardly had any sleep these last few nights & was quite exhausted.
Notes.

Abdominal tuberculosis and particularly the peritoneal type, has been the subject of much discussion within recent years, and as several interesting cases have been under observation in Wards 24 and 34 during the current session, it will be interesting to give a brief comparison and contrast, more especially with reference to their clinical features, each case whilst showing several points of dissimilarity yet agreeing in the essential characteristics.

Before doing so, however, it would be well to give a brief account of its prevalence and discuss the various modes of entrance, its spread, and the chief lesions caused in the abdomen.

With regard to its prevalence, statistics taken over a period of 10 years show great variations in different parts of the country, but it is a remarkable fact that the disease in Edinburgh and Glasgow occurs three times as often as in any other part of Great Britain. Even the Continent cannot show such a high percentage as Edinburgh, the nearest approach to our high figures being...
those of Buda-Pesth, where it occurs in 2% of all cases. Elsewhere on the Continent it is only 1.13%, in the remainder of England and Scotland, it is 1.6% whilst in Edinburgh the percentage is 3.6% and in Glasgow 4.6%.

Why this should be the case is not quite clear, but it might be accounted for to a great extent by the wretched environment of the poorer classes here, for not even in the large manufacturing towns of England are the slums comparable to those of Old Edinburgh and Glasgow.

Some authorities lay stress on the flat system of living, for this does not exist to anything like the same extent in England.

From a pathological standpoint the condition in a pure form is rare, it being usually associated with tuberculous disease elsewhere, e.g., the bronchial glands. Barlow, however, (Tuberculosis in Infancy and Childhood) states that there is a very definite class of case in which the abdominal disease, clinically at least, is the primary one. Tuberculosis of the mesenteric glands according to Dr. Dingwall Joddyce, occurs much more frequently than is commonly supposed. In making post-mortem examinations of the mesentere
glands of 50 consecutive cases in the Royal Hospital for Sick Children he found decided evidence of tuberculosis in 10 or equal to 20%.

How is this infection brought about?

According to the Royal Commission on Tuberculosis abdominal tuberculosis is essentially due to infection either from a bovine or a human source. Clinical evidence only serves to confirm this fact, that the ingestion of infected material is THE common cause, whether it be due to the drinking of infected milk or the swallowing of infected sputum from commencing tuberculosis of the lungs. Once swallowed the bacillus may affect the mucous membrane of the intestine directly, from there spread to the glands peritoneum, or take the more roundabout way via the tonsils, lymphatic glands of the neck, axillae, bronchial, prevertebral, etc. in to the peritoneum.

Since the question of the sterilization of milk for children is of great importance as most of the poorer children are bottle-fed & the mortality from this disease amongst them is nearly twice as high as those who are dependent solely upon their mothers' supply.

The disease is confined chiefly to the alimentary
canal, glands + peritoneum. and if one is affected the infection might spread to all three. In the first case the mucous membrane of the lower part of the bowel is chiefly affected, more especially at the ileo caecal orifice. The duodenum practically jejunum enjoy practical immunity, which is supposed to be due to the acid contents of the stomach being antagonistic to the bacillus, lower down it is neutralized by the pancreatic juice + thus becomes less resistant allowing the bacillus to settle down commence its ravages, chiefly in the solitary glands + Peyer's patches. It first causes infiltration, formation of tuberculous nodules + thickening. Later on this ends in softening + ulceration. This is shown clinically by profuse diarrhoea, with pale, watery, offensive stools and two of the cases were discussed had this symptom to a marked degree. In one at least the emaciation caused thereby was extreme. The peritoneum may be inoculated secondarily from the mucous membrane even without ulceration, or it may be infected by means of the glands from the chest, through the diaphragm, + to the peritoneal surface or it may spread upwards
from the genito-urinary system or from a Salpingitis. The varieties may be acute, Subacute or chronic, but it is the latter that is important in the cases referred to. Yellow exoconic tubercles are dotted over the peritoneum, each is a focus of inflammation and irritation with the result that round them fibrous proliferation goes on, with connective tissue adhesions thickening, the omentum becomes contracted, thickened and forms a sausage-like mass easily palpable through the abdominal wall. The mesentery is thickened contracted, and adhesions cause bunches of the intestine to be fixed against the vertebral column. The abdomen has a soft, doughy feeling. These features were well brought out in the case of Sibbald.

Another result is effusion. It is generally clear, and there is a certain amount of ascites into the peritoneal sac which sometimes requires tapping, or if purulent, as signified by much disturbance of temperature, shiverings, a prompt laparotomy.

The mesenteric glands is the third locality is characterized by great loss of weight and hence the name Tubercles mesenterica. This is probably
ELIZABETH, FINLAYSON.

ACT 13.

ABDOMINAL TUBERCULOSIS

Milk diet with lime water.

CHLORODYNE 1/14AM.

DIED.
JAMES SIBBALD AET. 51. TUBERCULOUS PERITONITIS.

1. Milk diet
2. Cod-liver oil and saltpetre. 31st T.J.D. P.C.

TEMPERATURE
Fahrenheit
108° 107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

VON PIRJUET

PULSE
64 40 40 42 80 92 94 80 82 12 68 50 92 44 34 12 84 80 92 90 38 45

RESP.
22 20 20 15 16 18 16 16 20 15 20 20 18 15 20 18 16 18 20 20 20 20 20 20
<table>
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<th>Date</th>
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<th>Resp.</th>
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<td>36</td>
<td>34º 32º 31º 30º 29º 28º 27º 26º 25º 24º 23º 22º 21º 20º 19º 18º 17º 16º 15º 14º 13º 12º 11º 10º 09º 08º</td>
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<td>24</td>
<td>24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</td>
</tr>
</tbody>
</table>

**Body Temperature**
- April: 99º - 100º
- May: 99º - 100º
- Note: High fever
- Cod liver oil and saline
- T. M. D

**Surgical Peritonitis**
- Oct 15
due to the pathway being obstructed, as the glands are directly in the path of the bacilli along the mesentery. The glands may form palpable tumours but in many cases are not large enough to feel. In none of the cases were the mesenteric glands palpable.

Each case, however, has many features in common. Pain, diarrhoea, and abdominal distension were prominent symptoms, especially in the case of the girl Finlayson. The colons were very well marked and was due in all probability to the diarrhoea and disinclination for food. Later on the high swinging temperature must have caused a great burning up of the tissues as it is well known that in pneumonia before the crisis, the temperature causes the patient to lose flesh at an astonishingly rapid rate.

The relationship of physical signs and temperature is very important as the following tables show, those cases with a high swinging temperature and well-marked masses in the abdomen being distinctly the most serious. Each case had a more or less swinging temperature and this feature was most marked in the case with the fatal termination.
Copies of the temperature charts are attached and are very typical of this class of disease, i.e., an evening rise followed by a fall in the morning accompanied by sweating more or less profuse. Before Lothian & Sibbald left, however, the swing had become much less pronounced although there were considerable variations. Lothian especially sometimes showing a fall in the evening with a sharp rise in the morning. After study of a considerable number of cases Dr. Fordyce came to the following conclusions:

1. That a high swinging temperature is of very serious import, whatever be the age or the physical signs.

2. A slight temperature is more ominous the younger the person.

3. Absence of temperature whatever be the physical signs is usually associated with a
fatal result only in young children.
The respirations in each case were fairly normal, but the pulse was rather rapid in the cases of Lothian & Inlayson, but in all probability in the latter this was due to excessive weakness.
In none of the cases was there any pronounced tubercular lesion in the respiratory system, but in two of them especially in Inlayson there were signs that the disease had commenced in the lungs & Von Pirquet's reaction was positive in all three cases. Unfortunately a post-mortem was not obtained.

As regards prognosis Dr Hutchinson states that "of all the affections due to the TB bacillus abdominal tuberculosis holds out the most hope of an ultimate cure" & while other authorities do not take such an optimistic view yet it would seem that the prognosis is getting brighter & brighter every year. The case of Lebbed is a most satisfactory one, there is good reason to believe that with proper precautions there should be no recurrence of symptoms. The outlook in the case of Lothian is not so good. He is a very poorly developed youth, who has had to struggle hard against adverse conditions & if he goes back
to mining is doing hard work under unfavourable conditions for which he is not physically fitted and may easily break down. If his right lung is implicated as it may be, then the prognosis is even worse, as the intestine may easily become secondarily infected from the affected lung.

Cases in which the disease has appeared later in child life however, seem to offer a greater hope of recovery than those in which it has appeared early, the body seemingly being then more fitted to resist its onroads, than when it occurs at a more tender age. The girl Finlayson seemed to offer little hope from the first. Her vitality was very low & what little strength she had remaining was burnt up by the high temperature which she subsequently developed. Slight was also very marked & prevented her from obtaining the benefits of sleep. The lungs also showed more evidence of implication than either of the other cases. The distension of the abdomen was much less marked & therefore there was no necessity to tap. There was little to be made out by palpation of the abdomen in either this case or that of Rothman but the doughy feeling of the coils of intestine were very
in Sibbald after some of the fluid had been removed.

Treatment medically has chiefly along constitutional lines viz. rest, plenty of good food (unless there is great dilatation of the intestine when the diet is restricted), fresh air & sunlight & locally, applications to the abdomen & this was followed in each case. How local applications act is as yet unaccounted for but it may possibly act by so improving the environment that the organism cannot continue its ravages. In connection with this fact it is interesting to note that two Italian physicians have recorded rapid cures by the injection of a solution of 15 grs of I & 20 grs of KI in 1/3 of H2O into the abdominal cavity, a syringeful being injected daily just above the pubis for 10 days then on alternate days for a fortnight. Fluid was then withdrawn from the peritoneal cavity & examined bacteriologically. Cultures were also made & guinea pigs were inoculated. No trace of T.B. was found.

Yes, records particulars of three consecutive cases where treatment consisted in painting the abdomen with Jodoine daily or on alternate
days tucking this with a layer of olive oil to prevent evaporation. At the same time he gave 7 gr of iodine dissolved in a teaspoonful of cod liver oil to be taken three times a day after food. He states the treatment was eminently successful.

Jagge states that this disease can in the majority of cases be cured by the local application of Lin Hydrazone spread freely over the surface of a flannel belt which is stretched round the abdomen.

Eustace Smith strongly advocates turpentine taken as follows: 1 cm of the oil of turps, 2 cm of 5% aetheris nit and 7 gr of codein made up into an emulsion taken T. I. D. If there be much tympanitis the external application of turps on hot flannel may be used in addition.

Prof Thomson of Geneva recommends creosote given in enema 0.5 m at first increased to 1.6 m in emulsified cod liver oil daily. If there is no improvement the question of surgical interference must be considered as there is a great difference of opinion regarding the benefits obtained from
surgical treatment the words of an authority like Watson Cheyne may be briefly stated:

1. All, even the gravest forms of T.B peritonitis show some good results, there is no form in which laparotomy is absolutely useless.

2. Coexistence of early phthisis is not a contraindication but the results are not good with advanced phthisis or ulceration of the intestine.

3. The best results are obtained in the early stage when there is fluid in the cavity, before there is great matting of adhesions.

4. Medical treatment should be continued for 4 months. If there is no result the abdomen should be opened, the fluid allowed to run out. Washing out and drainage is not advisable.

There is no doubt that in many obstinate cases the mere fact of opening the abdomen seems to check the disease. The rationale of this is unknown but it has been suggested that after the removal of the fluid from the peritoneal cavity, serum having antibacterial properties may be poured out, and the morbid process arrested.
Surgeons have recorded cases in which laparotomy had been performed, in which showed, on a second laparotomy for some other reason, that the tubercles, so obvious at the first operation, had entirely disappeared.

Rong reports that out of 131 cases, 104 were satisfactory completely, in 84, or 65%, deaths 3%.

Ronde had 357 cases, mortality 5.5%, complete recovery in 250 or 70%.

On the other hand, Birchgroves he decares operation, considering that those cases which do improve or are cured as a consequence of it, would do equally well if left alone, that cases which will not get well of themselves, will not do so as a result of operation.

A theory has lately been promulgated by Prof. White of Dublin, based on the fact that in T.B. the osmotic index is lower than normal. By laparotomy, the fluid effusion which is relatively to the blood, poor in osmum, is removed and replaced by a fresh exudate, containing a larger amount of osmum with other protective substances. Certainly there is a rise in the osmotic index after operation. Perhaps this is due to the disturbance of the infected area due to the removal of fluid, there being an exchange between the T.B. area and the blood, effete bacterial products of the former being carried into the general circulation, tomm, rich in osmum + protective substances, being effused from the blood in return.
Tapping seems to act in a similar manner: many cases continuing to improve after the fluid has been withdrawn. In other cases the fluid rapidly accumulates again and frequent tapping is then required. Both cases here discussed were tapped Lothian once + Sibbald 3 times + afterwards the improvement continued. One case is recorded in Ward 34 where the patient was tapped 15 times + an average of 400 oz removed each time but such cases are exceptional + two or three times is sufficient is a great number of cases.

As regards operative interference in Edinburgh Infirmary, the writer has examined the cases operated on in the Surgical wards from 1894 to 1910 with the following results:

more than 90% were discharged with the result In Statu quo + as they did not return it is only fair to conclude that the condition rapidly improved.

10% left with a discharging sinus in the anterior abdominal wall of these 4% returned within a few months for further treatment.

10% were much improved + the
remaining 10% include those cured, those who died in about equal percentage. These figures include the obstinate cases sent across from the medical side.

To sum up, one might make the following statements:

1. Tuberculous peritonitis is a common condition, especially in Edinburgh and Glasgow; according to Dr. Zoddy, it occurs far more frequently in its early stages than is fully recognized.

2. A primary abdominal condition is not common; the disease being usually associated with T.B. disease elsewhere.

3. Its chief cause is the ingestion of T.B. material, chiefly sputum if the lungs are implicated, or milk, and therefore the supervision of the milk supply is of the greatest importance.

4. The prognosis while on the gloomy side is yet getting brighter brighter every year.

5. Medical treatment is chiefly constitutional, but this is of no avail after 4-6 mo. Then surgical interference, by letting out the effusion is to be recommended.
Name: Mary Glasgow
Age: 29
Married: No
Children: 0

Occupation: U/Wife
Native Place: Maud, Aberdeenshire

Present Address: Spring Valley Terr. Edinburgh

Recommended by: Dr. Boyd
Admitted: 9th June 1911
To Ward 24

Complaint: "Painful swelling in the abdomen. Vomiting"
History of Present Illness.

Patient who is the wife of a soldier, has lived in India for the last 52 years.

About 8 months ago she first experienced a very severe pain beginning on the left side of the abdomen a little above the umbilicus and extending across the middle line to the right side. The pain was accompanied by severe retching and vomiting.

At first the pain came on at intervals of about a week but that time there was no swelling to be noticed. She was treated at the Military Hospital. The swelling was then noticed by the doctors but they could not make out its nature nor its significance. She was treated there from Nov 1910 to Feb 1911 and was only slightly relieved. When leaving she was advised to go home and consult the doctors in this country. Accordingly she left for England accompanied by her husband who obtained leave of absence.

During the greater part of the voyage the patient felt fairly well being sick only once.

However, a day or two before landing in England the pains came on again at intervals although they were not quite as severe as in India. On arrival about the beginning of April, patient
was removed to Netley Hospital where she remained for a week, then she decided to come to Edinburgh - she was feeling much better until 6 weeks ago, when the pain came back as severe as before. She also vomited a substance looking very like bile which had streaks of blood in it.

After this she appeared to get gradually better but was attending the Medical Out Patient Dept for treatment for tape worms. She was seen by Dr. Boyd who noticed the swelling. Last week (June 2-9) the pains were again much worse & Dr. Boyd advised her to come in to hospital as an in-patient. She was examined in one of the side rooms by Prof. Tooley who requested her to stay in for further examination. She accordingly was admitted on June 9th 1911.

Previous Health

Had Rheumatic Fever when 18 years of age was confined to bed for 4 or 5 months.

After going to India she had several attacks of dysentery one attack being particularly severe. She was subject to very severe bleedings from the nose.
2 years ago, she had a mild attack of Enteric Fever.

Social Conditions

In India, she lived in a well-ventilated house consisting of three rooms which opened on to a verandah. She had plenty of exercise and good food. She is an abstainer.

Family History

Father: Mother: alive well
Has 4 brothers
Has 3 sisters

One brother died in infancy.

Present Condition

Patient is a woman of medium build and fairly muscular. She is 5 ft 1½ in. high, weighs 8 stone ½ lb. She states she used to weigh over 9 stones. Her expression is very bright and intelligent. She is confined to bed. Temperature on admission 99.8°.

Skin, Subcutaneous Tissue etc.

Patient does not perspire to any
great extent her face is very pale rather thin.

There are no eruptions jaundice lividity nor drowsy.

She states that she had dropsy of the feet and ankles both in India during the voyage home but it disappeared soon after arrival in this country. There are no marks of T.B. syphilis or gout. She says that all her joints have been slightly enlarged since she had the rheumatic fever.

**Haemopoietic System.**

<table>
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<th>Blood</th>
<th>Reds.</th>
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<tbody>
<tr>
<td></td>
<td>Whites</td>
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<tr>
<td></td>
<td>Hb.</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>C.I.</td>
<td>100/100</td>
</tr>
</tbody>
</table>

There are no enlarged glands in the neck, axilla or groin. Spleen thyroid are normal.

**Digestive System.**

Patient's appetite has improved much since she came home. She does not have the great thirst she had while in India. She has no difficulty in swallowing.

At present she complains of a dull, growing pain.
beginning in the region of the pit of the stomach + extending down the left side. The pain is aggravated on pressure especially round the umbilicus. Last Friday-Saturday (9th-10th June) patient had a very severe pain in that region which was constant. She also vomited but this time there were no blood streaks present. Since then the pain has not been so severe. There are no gaseous eructations, heart burn nor water brash.

She has not suffered from diarrhoea; on the contrary, she is very constipated, that had to resort to castor oil continually.

Objective Exam:

The tongue is rather small but is normal in colour there is no fur. The teeth in the upper jaw are false. In the lower jaw there are only 3 incisors & 2 molars in good condition.

Inspection

Abdomen appears normal, there is no abnormal swelling, visible.

Palpation

A large, irregular mass can be felt in the left side of the abdomen. It extends
from the umbilicus to a little below the costal margin, the lowest edge of rigidity is distinctly painful on deep pressure and does not appear to be connected with the pelvis.

**Percussion**

An area of dullness all over the left side from the false ribs above to the diaphragm below. It extends outward to the left axillary line and across the middle line to about 15 cm to the right of the umbilicus.

A sympathetic note is however obtained towards the lower part of the tumor. The spleenic dullness is not increased.

**Circulatory System:**

Patient suffers from breathlessness when she exerts herself to any great extent. When she first went out to India she was much troubled with breathlessness. It kept...
from the left side over to a little past the umbilicus, from below the false ribs to a little below the iliac crest. It has no distinct edge does not move much with deep respiration & the muscles above it give a feeling of rigidity to the abdominal wall. It has more of a nodular feel than anything else, but its limits are rather indefinite. It is distinctly painful on deep pressure & does not appear to be connected with the pelvis.

**Percussion**

An area of dullness all over the left side from the false ribs above to the iliac crest below. It extends outwards to the left auricular line & across the middle line to about 1 1/2 to the right of the umbilicus.

A tympanic note is however obtained towards the lower part of the tumour. The spleenic dullness is not increased.

**Circulatory System.**

Patient suffers from breathlessness when she exerts herself to any great extent. When she first went out to India she was much troubled with breathlessness. It kept
her from sleeping at night & often she had to sit up in bed to get breath. Sometimes, she would wake up through the night gasping for breath & would have to sit up for hours. This has disappeared since she came home.

She often experiences sharp, gnawing, pains over the region of the heart. These pains come on if she attempts to straighten herself up back for half an hour. From the heart the pain passes up towards the left shoulder down towards the abdomen. In India she used to suddenly fall in a faint, but has not done so since she came home.

Pulse:

60 per minute, regular in rate, rhythm, force & fullness. Strong, rise & fall sudden, after fairly well sustained, no diastole.

The tension is normal. There is no thickening of the coats & no tortuosity. The radial pulses are equal & synchronous.

Physical Signs

No pulsation visible except a little on
the right side at the root of the neck.
nothing to be felt on palpation except the
right pulsation just mentioned.
A full beat is situated in the 5th interspace
3 1/2 in. from the mid sternum.

 Auscultation.

Over the aortic beat the first sound is
greatly modified. The first part is rough as
pre-systolic in time. The second part is rather
of a blowing character. The systolic is
heard loudest at the aortic is transmitted to
the aorta then can be heard at the angle of the
clavicle. This is systolic in time.
The second sound is clear as accentuated
the first sound could be designated by the
sound "trirrff"

![Diagram of heart sound]

At the 3rd costal cartilage the 2nd sound is
also accentuated.
Other sounds normal

Percussion

Superficial dullness

Right border - mid sternum
Upper border - 4th rib
Left border = from 4th rib down to 6th intercostal space

Deep dulness

exceeds the superficial dulness by about

\( \frac{3}{4} \) " all round.

At the 5th costal cartilage = \( \frac{3}{4} \) " to rt of mid sternum

- 5th = \( \frac{1}{2} \) " to rt + \( \frac{3}{4} \) " to the left of sternum

From rt border to aper-beat = 4 \( \frac{3}{4} \) ".

Respirations

When she

When at

Breathing

There is

Physical

no cough & no excessive sputum.

There is no obstruction to the breathing

Inspection

Chest is well developed. normal in size & form. Respirations easy. 24 per min. & abdomen - Hemicie in type. full & regular.

There are no local abnormalities of movement & no sucking in of the intercostes.
Respiratory System.

She suffers from breathlessness when she exerts herself in any way. When at rest, she has no difficulty in breathing. Breathing is easy. Respiration is 24 per min.

There is no pain in the chest.

Physical Signs

Extra auscultation

no cough & no excessive sputum.

There is no obstruction to the breathing

Inspection

Chest is well developed. Normal in size and form. Respiration easy. 24 per min. Abdomen - Muscular in type. Full, regular. There are no local abnormalities of movement & no sucking in of the intercostal spaces.
No bulging of the apices etc.
Expansion on both sides equal
Vocal fremitus equal.
Percussion note resonant all over.
Breath sounds are normal no accompaniment.
Vocal resonance normal.

**Genito-Urinary System.**

About 4 years ago patient had pain in micturition but this has passed away
Patient has full control.
No pain in region of the kidneys

Urine: 40 c.c. per day
Sp. Gravity 1016
Slightly acid
No albumen. No sugar.
Menstruation is quite regular normal.
Treatment and Progress.

Patient was admitted on June 9th with the large tumour as already described. She was put to bed and given a milk diet. In the evening about 2 pint of warm olive oil was administered per rectum. This was retained in the morning a soap sudwater enema was given. Large accumulations of hard faeces came away. They were small round yellowish brown in colour. This treatment was kept up with each injection the hypertrophic masses came away. At the same time the abdominal swelling gradually grew less. In about 10 days the swelling had almost disappeared. The patient felt better than she had done for years. The diet was now gradually increased. Eau de cologne was also given by the mouth. Later she was given two pills at intervals containing aloes 3 gr. extract of rue 3 gr., thysestamus 3 gr.

June 26th the mass was practically away there being only a suspicion of a swelling left. The masses now longer came away. The patient is now up for a part of the day feeling quite well. Temperature has remained fairly normal.
Notes.

This case is perhaps the most remarkable of the whole series. Symptoms referable to 
chronic constipation are very common indeed especially in women, but a case showing 
such an extensive tumour, apparently 
undiagnosed before admission to Ward 24, 
which disappeared so rapidly under proper 
treatment is extremely interesting.

Mrs. Glasgow forms one of a 
series of cases treated in Wards 24 & 21 
during this session which illustrate in a 
striking manner the sympathy that exists 
between the stomach and the bowel. When 
the latter is obstructed, the stomach 
becomes irritable and refuses food. Pain 
is also complained of. When the 
obstruction is removed by appropriate 
measures the stomach immediately 
right itself again, the symptoms cease 
off. In many cases where there is this 
constant pain after food and palpable 
tumour in the abdomen, erroneous 
diagnoses are often made. In all the 
cases referred to pain or discomfort was
referred chiefly to the stomach and the patient frequently vomited especially after taking food. One of these cases is Mrs. Halsey aged 56, the wife of a labourer, who was admitted on the 26th May 11 suffering from pain in the stomach also being under the impression that she was unable to swallow solids. She had been in the ward a year previously with similar pain but had recovered under treatment. During the last 6 months she had had pain 4 hours after food constantly and frequently vomited.

The question then arose as to whether this was just a functional case or whether there was not more serious organic mischief behind it. In giving a test meal the absence of free HCl seemed to favour the latter diagnosis although there was nothing to be felt. However, she was first treated by frequent enemata, olive oil followed by soap and water, and the symptoms disappeared rapidly. She was soon up and taking her food well the pain and vomiting were entirely away. Later however she suffered from pseudo-flatulence
due to air gulping and being carefully educated not to gulp air, which is just a habit she has unconsciously got into.

The other case is that of James Oldie, an old soldier, who does not drink or smoke who has in fact, no redeeming vice. He complained also of pain in the stomach but he has a palpable swelling in the region of the sigmoid. In this case the suspicion of malignant disease were much greater since he had lost 3 stone in weight during the last year or so that passed black foul smelling stools.

He however was also given olive oil soap water enema as the pain referred to the stomach disappeared. He has also gained 1 lb in weight this week.

In the case of Mrs Glasgow however the tumour was very extensive and extended practically down the whole of the left side a little across to the right side. She had always been enemiated & the symptoms previously referred to, e.g. vomitings were well marked. She was as a result of this, beginning to go down
When the case was first admitted, the diagnosis was by no means an easy matter, but after excluding anything connected with the pelvic organs, the diagnosis seemed to rest between

1. A hydronephrosis since there was an area giving a tympanitic note in front of the tumour
2. A large cyst of the pancreas.
3. A distended cecum containing gas.
4. Hydralids
5. An exceptionally large accumulation of faecal matter.

Spleen was excluded as there was no increase in its dullness.

Malignant disease was not thought likely as she is comparatively young, shows no emaciation, thus practically none of the signs of carcinoma.

Accordingly she was treated as a case of sebaceous accumulation & treated as usual with olive oil soap suds. Enema the result was most striking. Large
fibrous adhesions about the bowel causing the accumulated faecal masses to be dammed back. But as the whole of the tumour appears to have vanished now, if this is the case, it ought to cause her no trouble in the future if she exercises reasonable care.