case I
Case I

Neoplasm partly Malignant Epithelial & partly Sarcomatous in structure, in the thigh.

John Chalmers, aged 64+
Admitted to Ward 6 on the 12th May 1920 complaining of a swelling in his right thigh.

Duration of illness: about 10 years - 1910
Mode of onset: gradual
Assignd Cause: an accident 20 years ago 1900.

History:

About 20 years ago - 1900 - the patient, who works as a repairer of rails in the pit at Gobridge, was working with an instrument known as the 'nip' used for breaking rails. He was working on a specially hard piece of rail when the lever of the 'nip' gave way & came full against the lower end of his right thigh on the inner side. The pain from this blow was very severe & sickenen the patient who had to sit down. Two or three days after this accident there was slight purplish discoloration over the part, but nothing alarming & the patient was never off work. There was no swelling at this time & no pain unless anything came against the injured part.

About 10 years ago - 1910 - patient first noticed a swelling about the size of a 'dove's-egg' over the site of previous injury (viz. the medial side of the lower end of the Right thigh). The swelling was not hard & not painful unless anything knocked against it. There was no discoloration of the skin over the swelling & no direct cause at that time to account for it.

Six years ago - 1914 - the patient got a knock on the swelling which had gradually increased in size & at this time was still painless. The increase in size of the swelling so far, had been uniform, but 3 or 4 years ago (patient is doubtful as regards the date) it began to increase more at the upper part extending upwards to the thigh. The patient had still no pain or inconvenience & paid no attention to the swelling.

Within the last 3 or 4 months (February to May 1920)
the swelling has grown rapidly, got harder & grown more downward to the knee. The swelling became painful about 1 week ago - 5th May 1920 & caused patient inconvenience when at his work. The pain was of a stinging character & localized to the inner & lower margins of the swelling & also to the outside of kneecap. The swelling is not tender unless it is hit hard but the slight jiggling pain is always present & worse when patient is walking. There is also a feeling of tightness in right knee when patient tries to flex it.

The patient states that there is some difference in his general health or strength but there has been no loss of weight so far as he knows. For some time past (2 or 3 months) he has had "dizzy turns" while in his bed, and he has felt himself weaker & more nervous.

Previous Illness:
- Patient had rheumatic fever in both knees when he was about 20 years old. He could not walk at this time & his knees were both very stiff. This condition lasted about 3 months.
- Patient had measles in childhood.
- Patient denies having had Venereal disease.

Social History:
- The patient works in the pit. He is a moderate drinker of alcohol & smokes about 1 1/2 per week of strong tobacco. He has always had plenty of good & well-cooked food.

Family History:
- Patient's father died of "stroke" at 73.
- His mother died in 1906 after operation on bowels.
- Two brothers are alive & well.
- Four sisters are alive & well. Two sisters are dead.
  1. Youngest died at 33 (was an imbecile).
  2. Another died from "creeping paralysis."
- Patient's wife died of consumption. Patient has 1 daughter.
  1. Son alive & well. One son died at 21 from consumption. One daughter died at 15 from "gallipot consumption."
Examination - 12.5.20

The patient is a rather spare man with a sallow brownish-yellow complexion.

Noted Part - There is pain of a stinging character localised to lower and inner margins of the swelling and also to the lateral side of patella. This pain is slight when patient is lying in bed and worse when he is walking about. When there is also a feeling of weight in his leg. There is a feeling of tightness when he flexes his right knee. Tenderness is present along medial and lower sides of the swelling and also to the lateral side of patella below lateral condyle of femur.

There is a large oval swelling extending from a little below the middle of the medial aspect of the thigh to the level of the middle of medial edge of patella. The swelling is tense but fluctuation is elicitable along the medial side and inferior edge of it. The swelling extends to the mid-line of thigh anterioiy. The temperature over the swelling is slightly raised. There is no discoloration of the skin over the swelling, and the skin is movable over the swelling except at its antero-inferior angle. The swelling is apparently fixed to deeper structures. It cannot be said definitely whether the swelling is below the adductor magnus or involving it. The swelling is immobile from side to side but there is a sensation of movement in a longitudinal direction. There is no pulsation in the swelling.

Percussion reveals dullness all over swelling.

The glands in the right groin are slightly enlarged and hard but not more so than those on left side. The glands in the
nec & palpebral glands are palpable hard.

Digestive System: Appetite is usually good; has fallen off slightly
this last 3 or 4 months. Bowels are always regular.
Patient takes medicine frequently. Occasionally he is bothered
with flatus. Tongue is furrowed & moist. Teeth are badly
decayed & several are wanting both above & below.

Nervous System: nothing to note. Mentally the patient is well
developed. He is rather nervous & anxious about himself.

Skin is dry & bronzed all over more marked in patches on hand &
forearms. There are several sores on arms & wrists which
stand out white & are surrounded by a darker ring of yellow
brownish pigmentation. Temperature 97.5 has been subnormal.

Respiratory System: Respirations 20 per minute; resonance equal
on both sides. Breath sounds vesicular.

Circulatory System: Heart not enlarged; both sounds closed &
second sound accentuated. Pulse 85 per minute;
regular; vessel wall slightly thickened. Systolic Blood Pressure
is 120 mm.

Urinary System: There is some frequency of micturition.
Patient has to rise 2 or 3 times per night to micturate.
In Rectal Examination prostate is smooth, harder than normal &
slightly enlarged on the left side.

Urine: 28.6.20

Clear amber coloured; acid reaction:
deposit of mucus; specific gravity 1005.
No blood, pus, bile, albumin or sugar.
Urea = 5 ggr per 24.

X-Ray Examination showed no apparent bone involvement
There was a slight area of shadow at the upper part
of swelling away from femur; might have been due to
some bone formation.

On the 16th May 1920 to fluid out the nature of the swelling
Mr. Graham viewed over the lumbar & squeezed out a large
amount of broken down tissue & blood. The lumbar was
was apparently growing from perineum & was involving the adductor magnus. Some apparent roughness over the bone was felt. A piece of the growth was sent to the Pathological Depot for microscopic exam. On 21st May the following report was issued by the pathologist —

"Very peculiar growth. Parts of it look like a spindle cell sarcoma & parts are angiomatos in structure, but bulk of it appears to be of the nature of a malignant epithelial tumour with spaces lined by epithelium & showing papilliferous new growths. Can it be secondary to tumour of prostate etc.?"

On the 28.5.20 Mr. Scott sawing operated on the patient. Under AA mercury a circular incision was made around the margins of the tumour. The tumour was found to be well defined & encapsulated posteriorly but capsule was torn in front & the neoplasm was adherent to muscle & evidently fascia at its lower anterior part. The capsule posteriorly had a lining of delicate spicules of bone. The tumour was invading adductor magnus & lower part of quadriceps but separable from them by a capsule.

The anterior part of the capsule had been ruptured & much necrosed tissue & blood were exuding. On this account & because of the adherency of tumour Mr. Scott sawing performed a circular amputation at about junction of middle & upper thirds of the thigh. One of the inguinal glands was removed for histological examination.

On examination of the specimen the tumour was found to be adherent to but easily separable from the perineum covering the femur. There was quite a definite bladder capsule but this had ruptured anteriorly &
distally & was adherent here. In the post. capsule specules of bone could be felt but the surface of the femur was not roughened. The bulk of the tissue inside the capsule was necrotic & haemorrhagic. The humerus head involved the adductor magnus destroying it more by pressure & being definitely capsulated off from the muscle. The anterior part of the growth underlay necrotic femuris but its further attachments one was not able to find out as the specimen was to be preserved for the Royal College of Surgeons.

After treatment: The patient suffered a good deal of pain after operation and required two doses (1/2) of heroin.

His temp. went up to 97.4 the same night as operation (28.5.20). This was first occasion on which it had been above subnormal. His pulse was 68 & strong. There was a little ooze on the dressing.

On 30.5.20 patient’s leg was dressed & rubber drain removed. The wound was looking healthy. His temp. had fallen again to subnormal 97.2.
Drawings from section of tumour - 21.5.20

**Low Power**
- Papillary growth
- Spaces lined by epithelium
- Spindle cells

**Augenmatur part**

**High Power**
- Spaces lined by epithelium
- Spindle cells (sarcomatous)
- Augenmatur part

**Low Power**
- Showing epithelial lined spaces + papillary growths
- Basement Membrane
- Connective tissue

Spindle cells
Commentary.

The diagnosis of this case was exceptionally doubtful & the possibilities would take too long to describe. Before the swelling was cut into the most probable causes were:

1. Benign neoplasms which in the last 3 months had taken malignant properties. 
   - lipoma
   - fibroma become sarcomatosus
   - angiomma
   - subperiosteal sarcoma.

2. Gumma with softening of parts of it & the general glandular enlargement & the thickening of arteries rather point to this. Unfortunately the Wassermann Reaction was not done.

3. Tubercular solid Abscess
4. Aneurism from traumatic causes.

After X-ray although there was no erosion of bone visible in it, subperiosteal Sarcoma was thought likely.

When Mr. Graham incised the tumour & felt the angles of bone this diagnosis seemed confirmed but the result of microscopic examination was not confirmative.

The presence in the tumour of sarcomatosus tissue would not be difficult to explain, as sarcoma is commonest malignant tumour of periosteum & moreover periosteal sarcomata are usually spindle-celled, but to explain the presence of epithelial tissue is difficult. The epithelial growth must either have been due to 0 intermingling of tissues at trauma 20 years previously or 2 a metastasis from some primary growth in the body elsewhere. Although no definite proof of such primary growths in this patient was available there were two possibilities viz.

1. A primary human of malignant epithelial type in prostate or
2. A primary tumour of the suprarenal malignant in type.

Let us consider first the intermingling of the tissues at time of trauma. At the time of the accident the periosteum may have been ruptured & bone
forming cells (osteoblasts) from its inner layer set free. At the same time some of the deeper epithelial cells from skin may have been dislocated into the deeper tissues. As a result of the injury scar tissue may have formed & this, as is often the case, been the site of keloid or fibroma formation. Now this fibroma, for some unknown cause, gradually took on malignant growth perhaps because of the advancing age of the patient with the lowering of his tissues' power of resistance & the restraining power of one tissue over another being lessened. At any rate the previously quiescent epithelial cells took on a metastatic growth & the fibroma's spindle cells became by anaplastic sarcomatous spindle cells. From the definite capsule it looks as if at one time the tumor had been benign.

Considering the question of a metastatic growth the long & slow growth of the tumor were against this. If the tumor was secondary to a prostate tumor the only reasons we have for saying so are 1 the slight enlargement of the left lobe of the prostate and 2 the frequency with which prostatic tumors set up metastases.

The view that the tumor might be secondary to a suprarenal neoplasm is based on - the presence in the patient of what appear to be symptoms of Addison's disease, which may be caused on rare occasions by tumor growth occurring especially if the other adrenals has been diseased T. B. etc. But the bone marrows and usually are not involved. The symptoms of Addison's disease present in this patient are 1 the markedly subnormal temperature which was never above 98 except on the night after a, when it was 98.6 & then dropped again to 97.2°F

2. The bronzing of the skin - this of course might be accounted for by numerous other things.
(3) the falling off in strength
(4) the giddiness when he sits up in bed
(5) the comparatively low blood pressure considering the sclerosed state of his vessels.
(6) pain in small of the back which on careful inquiry patient says he has had for some time back but thought it was due to his work entailing a lot of bending.

The Prognosis varies as the view held as regards the origin of the tumour.

If it was simply a primary Oste Sarcoma a few epithelial cells proliferating on account of the lower restraining power of the other tissues & if these epithelial cells were introduced there by means of the tumour 20 yrs previously—then the prognosis is not so gloomy.

Another factor which indicates a brighter prognosis was the delicate encapsulation of the tumour.

If on the other hand the tumour is secondary to some neoplasm in prostate or suprarenal then of course the prognosis is gloomy in the extreme.
Case II

J. M. Black.
Multiple Exostoses. Sarcoma of Leg with Secondary Growth in Left Lung.

Charles McLauchlan, aged 40, plasterer.
Admitted to Ward 6 on 8th May 1920 complaining of a swelling in the right calf.
Duration of illness: 3 years 9 months - since August 1916
Mode of onset: gradual
Assigned Cause: strain of physical drill while in the Army.

History:
In August 1916 while at Catterick Camp the patient one day after severe physical jerks first felt his legs very tired. He got a comrade to rub his legs for him & the latter noticed that there was a swelling on the right calf just below his knee. The swelling had hitherto not been noticed by the patient & had caused him no pain or inconvenience.
It was only about the size of a duck egg & the skin over the swelling was dark in colour. Next morning the patient saw the M.O. who took him off physical drill but otherwise prescribed no treatment. The swelling still remained the same size & in May 1917 patient was sent to France. At this time the swelling had increased slightly in size & caused the patient some discomfort after a heavy day's marching. The patient tackled this by rubbing the calf with Liniment. In France he was hit by a shell in the right thigh - just a superficial wound.
In January 1919 at which time there was no great change in size of swelling the patient was discharged from the Army on account of Multiple Exostoses. When he got home he consulted his panel doctor & he recommended rubbing the calf & embrocation.
In October 1919 after patient had resumed his work
as a plater, he noticed that the swelling was increasing in size. The discomfort after a hard day’s work was greater & he began to have sharp pain localised to the swelling. He could not bend his knee up completely & the pain was worse when his knee was straightened out. He remained at work till April 5th 1920 when the swelling was much larger & he was unable to sleep at nights for the severe pain in the swelling (Pain did not shoot anywhere). There was a feeling of weight in his leg when he walked, and the movements of his right knee were limited. He has not lost weight so far as he is aware.

On 8th May 1920 he came to S.O.P.D. of R.T.B. & was admitted on that date to Ward 6.

Previous Illnesses

Little hard nodular swellings about the size of peas appeared over various bones in patient’s body whilst he was in France in 1917-18. He does not know which appeared first or the exact dates of their appearance but it was the one on outside of left wrist that he noticed first. The nodules were first moveable but then became larger & fixed. They caused him no trouble or pain except if they were knocked.

The patient had what he calls “a touch of bronchial asthma” after his return from France in February 1919. This affected him most at nights when he had great difficulty in getting breath.

3 months ago, February 1920, patient had great trouble in getting breath & occasional sharp pain in the left side of his chest just below collar bone. Pain did not shoot anywhere. He had only a little cough at this time & brought up little or no phlegm.

At the beginning of 1920 patient had Rheumatic pains in his hips which pains gradually passed off.
Social History: Patient's work is out of doors & heavy - 48 hours per week. He is a moderate drinker & has given up smoking. He has always plenty of good & well-cooked food & has it at regular meals.

Family History:

Mother - age 65, died of "shock"
Father - age 63, was killed in an accident.
Both his parents were healthy & neither had any rheumatoses so far as he is aware.

Brothers - 2 are alive.
Sisters - 3 are alive.

Patient had 5 children - 4 of whom died:
1 died of meningitis when aged 9,
1 of whooping cough,
2 died in infancy.
Examination - 11. 5. 20

Patient is a well-developed, healthy-looking man.

Affected Part - There is pain of sharp nature in the swelling but worse in the popliteal fossa. The pain is worse when he extends his leg fully but there is no great pain when knee is semiflexed. The pain is more severe when he is walking & there is also a feeling of weight in the right leg. Occasionally the right ankle gets cold & numb after patient has been standing for some time. Tenderness is present round margin of swelling & especially on the lateral aspect.

Objective - There is a large round swelling (size of a small melon) extending from lower part of popliteal fossa downwards to the knee for about 1". It measures about 4" across at widest part & juts out posteriorly for about 1". The swelling is firm & non-fluctuating. The lump over the swelling is not increased. There is a faint red discoloration of the skin over the swelling & the subcutaneous veins & capillaries are prominent. There is no pulsation over the swelling which is apparently beneath the muscles & firmly fixed to deeper structures. It is not fixed to the skin.

There is no edema of the leg which is held in a position of semiflexion. The glands in the two groins are palpable but no difference in the two sides is apparent. On percussion the swelling is dull.

Exostoses

1. On the left ulna about 1" above wrist is a bean-like hard swelling 1"x1½".
2. On the left radius about 1" above wrist is small pea-like swelling.
3. Left Femur medial aspect extending from adductor tubercle upwards for about 3".
4. Left Tibia 3"x2" swelling on subcutaneous antero-medial
surface just distal to the knee.

6. Right Pubis at the spine, module size of a bean.

7. Right Femur modules 0 1/2 x 1/2, three inches above internal condy.
   0 1/2 x 1/2 at one inch above lateral condy.

8. Right Tibia module about 3 1/2 by 2, just below knee on antero-medial surface.

9. Right Tibia module size of pea 1/2, above lateral malleolus.
  1/4m Left Rib module about size of large pea 1/2 lateral to supple line. This module causes pain when patient lies on his left side.

X-Ray - show multiple exostoses x chondromata.

Digestive System: Patient has good appetite. Bowels are regular. Tongue is clean and moist. Teeth are very much decayed.

Nervous System: Patient is mentally well developed but bothers a lot about his leg.

Skin: has a yellowish tinge.

Urinary System: No trouble or frequency of urination.

Rectal Exam: reveals a small prostate harder than normal.

Urine:

- Clear amber colour.
- Reaction Acid.
- Deposit of Hucus: No blood, pus, bile, albumen or sugar.

Respiratory System: Respiration 24 per minute.

Breath: Patient seems to have some difficulty in inspiration.

Respiration, there is a dull area on left side of chest extending from about 1 1/2 from sterno to nipple line at level of 3rd rib. Breath sounds are hardly audible over this area and V.F. is diminished.

Circulatory System: Heart sounds normal & regular.

Pulse 76 regular & pulse wall not thickened.

Temperature 97° F. Fever above 98.4° F except on 2nd day after admission 98.6.
16.5.20 Mr Graham made an incision over the tumour under the gastrocnemius muscle, found the tumour to be infiltrating the calf muscle very much necrosed and haemorrhagic. The capsule was able to be defined.

A piece of the tumour removed on the 16th sent for microscopical examination showed the neoplasm to be of the nature of a mixed cell sarcoma with large spindle cells and some giant cells. There was a large amount of necrosis and haemorrhage seen in the section.

28.5.20 Mr Scott-Skiving performed a vertical amputation about the middle of the thigh. The operation was performed under general anaesthesia. The specimen removed was sent to the College of Surgeons Museum without further investigation as to the site and size of the tumour being ascertained.

The evening of the 28th the patient was very restless. There was a good deal of oozying through the dressing. A tight bandage applied, successfully stopped the oozying. Pulse was slow and strong. Temp. up to 99.6.

29.5.20 Stump was dressed. No relief had some blood-clot in depths of wound. Drainage tube was reinserted.

30th the patient was looking very much better. Temp. down to subnormal and pain much less.

5th June stitches were removed wound practically closed and patient was up in a chair for a few hours.
base III

J. M. Black.
James Oliver, act. 412
Admitted to Ward 6 on 27th April 1920 complaining of "an abscess on left cheek".
Duration of Illness: 12 days - 13th April 1920
Mode of Onset: sudden
Assigned Cause: none

History:
On the 15th April 1920 patient went to bed quite well and on getting up next morning noticed a small swelling on the left cheek on the outside of the cheek. The swelling was size of a small hen's egg, not painful, and at first there was no discoloration of the skin over it. The swelling remained the same size and patient was at his work all the time. He slept well at nights but the only discomfort he had was a feeling of tightness on the left side of his mouth when he tried to chew. About April 19th the swelling became noticeable on the inside of the cheek. There was still no pain but a bad taste and smell developed inside mouth. He gargled his throat and washed his mouth frequently with Lundy's fluid. On the 26th April while patient was in bed at night the swelling burst on the outside of cheek and a large amount of black evil smelling stuff came away. Patient states that none of this material burst inside his mouth. He has never had any pain in the left cheek since the beginning of his illness.

Last night patient states that he was troubled for the first time by a tight cough and he slept very badly. He therefore walked up to the S.O.P.D. and was admitted next day to Ward 6.

Previous Illnesses: none. Has always been a very healthy man.

Social History: patient works outdoors as a porter in the Sydney markets. He is a moderate drinker and smokes 1-2 per day.
He always has plenty of good food and regular meals.
Family History

Father died at 65, cause of death unknown.
Mother died at 60, cause - 'stroke'.
No brothers or sisters.
Patient's wife is 45 yrs. & they have 1 son 1 1/2 yrs.

Examination

Patient is a well-developed man; his face is markedly flushed on both cheeks, and his breathing is rapid & laboured.

Affected part: There is a sensation of tightness when patient opens his mouth or tries to chew, & food lodges in left side of his cheek when he eats. There is total absence of pain or tenderness over the affected part.

Objective. In the centre of left cheek there is a circular area about the size of a penny which is well-defined & greenish-black in colour (gangrenous). Surrounding this gangrenous circle is a narrow red area of inflammation. There is evidence of the whole linement of left cheek which is markedly flushed & hot. There is no tenderness. The whole interior of the circular gangrenous patch is toughened & a probe can easily be passed through it into the mouth cavity. The mouth & the wound both smell badly. The breath also has a 'B. coli' odour.

Patient shows a drooping of left side of his mouth & is unable to move the left side of face at all. He cannot open his mouth widely & is only able to protrude his tongue a short distance.

In the interior of the mouth, the gangrenous appearance extends to lower & upper left alveolar marginal & the tongue on the left front side also on to the left side of the tongue. All these tissues are greenish-black in colour. On the lower left a small patch of gangrene is also visible. The molars & premolars (upper lower jaw back are loose. There are several enlarged submaxillary glands palpable.

Digestive System

Appetite is usually good, but not lately owing to discomfort in head when eating.
Bowels are regular as a rule. The tongue is dirty, dry, thin.
The teeth are much decayed & those on the left side (molars) quite loose. Nervous system nothing to note. There is facial paralysis on left side of face. Mental condition - patient is nervous & anxious.

Urinary system - no frequency or trouble & micturition.


Respiratory system

Respirations 32 per minute. Breathing laboured - alas no improvement to date. Percussion reveals nothing. Auscultation - bronchial breathing on both sides. Crepitations & rhonchi on both sides.

Circulatory system

Pulse - 120. Heart sounds closed. No thickening of vessel walls.

Temperature 101-4°.

Treatment

Medicinal: H₂O₂ mouth wash frequently

Sodium bicarb 15 grs. 4 hourly

Ammonium carb 15 grs. 4 hourly

Stimulants, brandy etc.

Slaughtering tissue from gangrenous patch snipped away with scissors following a dark necrotic well-defined edge. The whole thoroughly irrigated with pepsin Carbolic, spayed with H₂O₂ & a dressing of petrolic gauze applied. The alveolar mucosa as far back as practicable treated with Carbolic & sprayed with hydrogen peroxide; all teeth on left side removed.

28th 4'20. Carotisation & Carbolic repeated at 11 a.m. & 7 p.m. The gangrenous area was spreading to lower lip & tongue. In the evening patient showed signs of delirium. His temp went up to 102-6°.
Respiration up to 40 per minute. The chest on percussion showed patchy dullness. Breathig was tubular & harsh & creps were present on both sides.

29. 4. 20 Patient delirious & incoherent. tried to get out of bed. breathing rapid up to 48 per min. voice husky & weak. Temp. 100. Resp. 418. Pulse 132.

30. 4. 20 - 5.30 a.m. - Death.

A swab taken from the lesion on the 28th April 1920 showed in culture:

Staphylococci, B. boli, B. tuberis & a leptothis

Commentary.

From the site & appearance of the lesion four possible diagnoses suggested themselves - 1) Malignant Pustule - Anthrax

2) Actinomycosis

3) Diabetes

and 4) Carcinumbris.

Anthrax. In the first place there was no burning or itching at the site of disease. There was no history of a pustule appearing & gradually going through the usual changes finally forming a black eschar. No fringe of vesicles was present & the organism in the culture was not B. Anthrax. Finally the occupation of the patient was not one which would ordinarily be associated with working in wool.

As regards Actinomycosis, again the patient's occupation was against it. This disease also is more chronic & although painless there was no pus & the sulphur speaks to suggest its likelihood. And lastly the Ray fungus was absent in the culture.

There was no glycosuria to indicate the cause of the lesion being Diabetes.

The site, rate of growth, factor & great spread of the disease at once suggested Carcinumbris. The history however was atypical and the age of the patient was against this.
diagnosis. There was no history of the patient being in poor health. The first thing noticed by the patient was a swelling or spot a red papule in the cheek, or an ulcer in mucous membrane. The bursting of the swelling to the right time was not altogether very characteristic. Again the relatively slow onset, the long resistance of the patient must have been due to his age or good condition. The painlessness was characteristic.

The cause of Cancerum oris is said to be due to the lowered vitality of the tissues, plus poor circulation. In this case neither of these factors were evident. The man had been in perfectly good health & his heart & vessels were in no way inefficient.

The rapid spread to the loosening of the teeth, all of which were exceptionally bad, was very much in favour of Cancerum oris. And the presence of a leptothrix in the swab culture was very suggestive.

Thus the diagnosis of the condition was settled viz. Cancerum oris, atypical in the following respects:

1. Age of the patient - 42.
2. Relatively slow onset, guanin the history.
3. The good health of the patient previously.
4. His good circulation.

And typical in

1. Size & appearance of the lesion
2. The rapid perforation of the cheek
3. The incredibly quick spread to gums with the falling out of the teeth & absence of pain.
4. The factor
5. The presence of leptothrix in the face though not essential to production of gangrene was helped in the diagnosis.
6. The mode of termination (a) spread to larynx
7. Infection pneumonia.
Interesting points in the case were:

1. The involvement of the facial nerve locally in the rough mass, i.e., the production of a facial paralysis.
2. The husky voice near the end of the disease showing spread of the disease to the larynx.
3. The development of the septic bronchopneumonia was also characteristic and fatal as laterum once in from 70 to 95% cases.
Case IV

J. M. Black
Case IV

George Dawson, aged 53, brass finisher.
Admitted to Ward 6 on 1st May 1920, complaining of pain in left lumbar region & blood in the urine.
Duration of Present Illness: 5 months since December 1919.
Mode of Onset: sudden.

History: About the middle of December 1919, patient felt pain in the small of the back on the left side. The pain was dull & lasted about a week not being severe enough to keep the patient off work. After the pain had passed off, the patient passed several (8 or 9) small stones. He had no pain on passing the stones & the urine was not discoloured at that time.

In the middle of January, patient noticed that he was passing "bloody urine." He had no pain at this time & passed no stones. At the end of January, he saw his Dr. who advised him to go to R. J. E. Patient was examined by Mr. Hiles who thought operation inadvisable so he went to the Medical side in February 1920. The patient states that at this time he was passing a lot of blood in his urine. The amount of blood passed seemed to be in direct proportion to the exercise he took. In March 1920, after admission to Ward 23, he only passed blood once that was after being up for 2 hours. During this time he had no pain. Between January & his admission to hospital in March, patient had been passing blood in his urine continually. The blood was always intimately mixed in the urine, not streaked. He had intermittent dull pain at small of his back on the left side &
This pain got very severe whenever he walked about. Then he states he was often afraid to breathe on account of the pain which became less severe as soon as he lay down again. The pain at this time always remained localised never that anywhere.

Previous Illnesses

In 1901

1910 The patient had very severe attacks of pain.

1917 Pain started in left lumbar region that down to the thigh. Serum always finished up in the right lumbar region where it was very severe. The pain was on all occasions accompanied by nausea. Except in 1901 urine did not contain blood during these attacks. After each attack patient passed a varying no. of small stones, whilst in colour & easily crushed.

In 1910 patient had a stone crushed & the lithotrite by Mr. Rathcarr.

In 1917 Mr. T. J. Smith removed a stone from the bladder by suprapubic route.

Otherwise patient has been very healthy.

Social History: Patient has fairly heavy work & has a lot of stooping to do. He is practically T.T. & is a non-smoker. He always has plenty good food.

Family History:

Father died of heart failure.

Mother died from heart disease.

2 Brothers & 3 sisters are alive. None dead.

Patient has 7 children all of whom are alive & well.
Examination 2.5.20

Patient is a thin, pale person turning grey-lanid & with a worried expression.

Affected part: Patient states that he has slight dull, intermittent pain in small of back on his left side. The pain becomes very severe when patient walks about.

The abdomen moves freely to respiration. There is no tenderness & no enlargement of kidney detectable. Neither kidney is palpable. Percussion shows nothing abnormal. There is no frequency of micturition but there is some slight pain in glans penis at the end of the act of micturition.

URIN: 2.5.20

Colour is straw or muddy: deposit of phosphates.

React is alkaline: Specific Gravity 1025.

Blood + : Bile –

Pus + : Albumin +

Urea: – 11gs per 3

Digestive System: Patient's appetite is fair. Bowels move regularly.

His tongue is clean & moist.

Nervous System: Mental condition rather anxious.

Nothing otherwise to note.

Respiratory System: Respiration 20 per minute. Percussion & Auscultation reveal nothing abnormal.


Pulse 88 regular: no thickening of vessel wall.

Temperature 97.8°.

X-ray Examination: March 25th. definite multiple shadow in
Cystoscopic Examination: 16th April 1920 - Mr J. M. Graham.

In the bladder at the time of examination: some blood clots were seen in the bladder: one or two jets from each ureter of bluish urine (patient had s.o.e. indigo carmine). After examination patient passed a small calculus of phosphatic material.

Operation: 11th May 1920 by Mr Sass. Skinning.

Nephro lithotomy.


The calculus consisted largely of phosphates with a deposit of urates on parts.
ROUGH TRACING  X-RAY  25-5-20
After Treatment:

12.5.20  morning - deep drainage tube removed.

at night 7 p.m. temperature went up to 100°. Wound was
dressed again & a little more purulent material came away
from kidney pouch.

13.5.20  Pus coming out of kidney pouch freely: dressed
twice daily.

14.5.20  Temp. 102.2°  Pulse 118  dressed twice: no
dimensional in amount of pus.

17.5.20  Temp. down to normal  pulse normal  pus
shutting down. Patient feeling better.

20.5.20  Patient complained of pain in left side of
abdomen & felt that there was something in his urine.

21.5.20  Pus still present in water.

26.5.20  Some pain at end of micturition.

28.5.20  passed a small phosphatic calculus

stitches out  wound dry  almost healed.

---

commentary.

This case is quite typical of a Renal Calculus case. The
age of the patient and the sex, the history of previous
attacks of renal colic & of removal of stones from bladder
are all facts which go to confirm the diagnosis.

The Haematuria symptom was the only objective phenomenon
present (excluding the history of patient of having passed a stone)
In considering this symptom  1) the distribution of blood in
urine  2) increase of blood  exercise  3) unilateral
lumbar pain  4) the actual passing of a stone after
cystoscopy  were all important aids to the diagnosis.

The finishing off of the pain in his old attacks of
Renal colic on right side is atypical.

This case also illustrates the change in method—
In the last 10 years of removing vesical calculi, we:

1910 - the lithotrite
1911 - the suprapubic operation.

The passing of a calculus 14 days after operation raises
the question of there being another calculus present in
the other kidney, but from the side to which pain was
referred & the probability of the stone having been chipped
in operation, it seems that the stone passed down
from the left kidney.
Case of Gas Gangrene from Lacerated Wound of Thigh. Disarticulation at Hip.

Peter Livingston, aged 35, miner.
Admitted to Ward 6 on 24th April 1920 with a large lacerated wound of the left thigh.

About 7 a.m. on the morning of the 24th April the patient was engaged in shunting at Prestongrange Colliery. He was coupling a light engine to a track when his leg was caught between the buffers of the engine and those of the truck. He does not think the force of the crush was very great and although suffering severe pain at the time, he never lost consciousness. He states that he lost a large amount of blood. A tight bandage was applied round the top of the thigh and he was conveyed by ambulance to R. J. E., where he was admitted at 12 mid-day to Ward 6.

Previous Illness: None since childhood.
Family History: Revealed nothing of note.
Social History: Works underground: heavy work: lives in comfortable and healthy house: has plenty good food. Moderately alcoholic drinker: smokes 23 a week.

On admission: Patient is spare, man of good complexion and is moderately well developed. He is suffering from a marked degree of shock, is cold and collapsed.
Temp. 97.2°F, Pulse 64. Respiration 16

He does not complain of much pain.

Examination: On the medial aspect of left thigh extending from 1 inch below Patellar lig. to ½ above knee joint is a large gaping incised wound about 8 long and 8 wide with clean cut edges. Several small nerves...
one torn & muscles beneath are bruised. The fascia is also torn & contains some grit & dirt. The edges of the wound show some slight swelling. The fracture made out to be large & very long. The foot & leg are quite warm. No palpable or post-tibial arteries pulsating. No injury elsewhere. There was a good deal of dirt in the wound especially round the edges. The muscles were normal in colour & no bleeding was coming from them.

Respiratory system nothing to note
Circulatory system Heart sounds closed. Vessels walls not thickened.

Urinary system nothing to note: passed 3 of urine after admission.

Urine: colour straw. Acet. acid. Deposits: none
Specific Gravity 1.022. No blood, film, albumen or sugar. Urine 11 gr. per 24.

Gastrointestinal system nothing to note. No vomiting. Tongue dry & clean.

Nervous system patient collapsed & cold. Quite conscious but anxious about himself.

Treatment At 1 p.m. 24th 4.20 The patient was anaesthetised to chloroform & Mr. Scott skinned & excised the skin edges. After purging of wound the skin was antisepctic spirit. About 1/2 of skin edge was excised all round the circumference of the wound & a large amount of subcutaneous tissue delivered away. Some muscle also removed. The wound was dressed with eusol. There was not much bleeding from the raw surfaces. Several veins ligatured & wound stitched with silk, some left remaining separate sutures & continuous horse hair suture. A long rubber tube passed through top of wound drawn the wound from the lower end. Spirit dressing applied & bandage.

25. Nov. 20 Patient was quite comfortable having slept well.
Novels moved in morning. Temp. 98  Pulse 72  Resp. 16

20. 4. 20 Dressed - wound clean but some swelling of edges & skin round about. There was an escape of yellowish green serum from the drain. The wound had a peculiar unpleasant odour. Over the anterior surface of thigh were 2 greenish patches. The skin over here was greenish purple in colour, & eschar formation was evident under the skin. Incision was made into these two gangrenous areas & there was an escape of bubbles of gas. The incisions were painless. The skin over these areas was removed & revealed a sloughy subcutaneous tissue brownish in colour. The wound was all opened up & after a swab had been taken, thoroughly sprayed & hydrogen peroxide & left open.

The result of examination microscopically of the swab was as follows - 'Films show large gram positive bacilli morphologically of the B. aerogenes capsulates (gas bacillus type) core of various kinds are also present'.

At 3 p.m. there were further gangrenous patches extending up the thigh & a large area of sloughing slimy material at the parts which had been gangrenous in the morning. The dressing was covered to a bright yellowish green discharge & a bad odour. Patient had no pain but headache.

At 5 p.m. Temp. 98.6  Pulse 72  Resp. 20  Dry, dry

furred tongue: breath foul smelling.

At 5:30 p.m. patient was anaesthetised & Client &

in foot shinning cut down on femoral vessels & ligatured

them just at the commencement below inguinal ligament: a long posterior & short anterior flap of skin were then marked out & this being necessary on account of the gangrene being higher up in front than on the post aspect of thigh. The muscles were divided after direction up of the flaps: there was little or no bleeding & the muscles were of an unhealthy brownish yellow colour & the fascial tissue was sloughy & brownish. This tissue extended up to outside of posterior
flap. It was cleared out of the posterior flap as well as post and the post muscles were divided. The scabie nerve was divided by hyp. & inf. Glutaeal vessels cauterized. The ant. part of capsule was now opened & the capsule & ligaments divided. The post. capsular ligaments were also cut & the head of femur disarticulated. The long post. flap was as far as practicable cleaned of its unhealed subcutaneous tissue and the stump completed by suturing the ant. & post. flaps to separate s. w. Gut sutures. Two large drainage tubes were inserted on lateral aspect.

Patient's pulse was very rapid & weak after the operation & he was transferred to 2 parts of saline & 6% phenacetin.

21. 4. 20

Temp. 98.5  Pulse 88  Resp. 20

Patient appears jaundiced & is very weak. Dressed. The dressing was stained & a bright greenish yellow discharge coming from drainage tubes. The wound looked clean except for a small point at apex of the post. flap where there was a greenish descoloration of skin. The stitches were removed from this part & the wound sprayed with H₂O₂ & dressed & dressed.

The culture from swab taken on 26th was sent for & report on it said that the organism did not grow well aerobiotically & was evidently not the ordinary gas bacilli (B. Anaerogenes, Capsulatus).

The patients eye was dressed again at 7 p.m. & the green patch had not extended any. A swab was taken from here & sent to the University Path. Dept.

28. 4. 20

The swabs taken on 27. 4. 20 showed growth in culture of anaerobic bacilli like B. Anaerogenes Capsulatus. The patch had spread in size along the edge of the flap so 2 or 3 more stitches were removed & H₂O₂ spray applied.

Patient's general condition was poor. He was still jaundiced

T. 99  P. 84  R. 20

Urine contained albumin & bile. Bp. 10/8

Panel 5 gas free 3.
29. IV. '20 Patch still spreading – smell marked & the green discoloration of dressing very marked. Patient had little or no pain & all stitches were removed. The gauze underneath almost edge of posterior flap was cut off by scissors. There was no spread to anterior flap. The muscles under the flap were still brownish in colour. The wound was left open & healed during the day by exposure to electric light & continual spraying of H2O2. During night it was dressed with Eusol.

Patient's back over the saeurum showed a little greenish black though. Touched & Pierced Acid.

T. 98.2 P. 80 R. 20

30. IV. '20 Same treatment. Patch on back spreading
was the size of 61 pence & very painful.

T 94.1 P. 82 R. 18

Patient feels a little better.

2. V. '20 The wound was much cleaner & healthier looking
bleeding freely after spraying Eusol & H2O2.
Patient's general condition much improved. Still jaundiced a little.

The treatment by light during day & Eusol dressing
at night was continued till 25. 5. '20 when
there was great improvement of the wound. The
edges were drawing in & there was little or no
discharge. Patch on back was decreasing in
size.

On the 1. 6. '20 patient was up setting in a chair & looking
very much better.

On the 2. 6. '20 he was beginning to go on crutches.
Commentary.

Although common in war time, cases such as this are rare in civil practice; and the result in this case was so contrary to all expectations, that it is really interesting.

When at the operation for disarticulation there was evidence of contamination in the posterior flap, the prognosis seemed hopeless; moreover, after the operation, a swab from the gangrenous patch on the flap showed in culture, organisms of B. aerogenes capsularis type.

Until this report was received there was a hope that the gangrene in the posterior flap might be due to lack of blood supply after the severe cleansing away of the subcutaneous tissue at the operation. It is impossible to say why the gangrene then, did not spread. The condition of the patient was quite favourable but the constant spraying with H\textsubscript{2}O\textsubscript{2} would no doubt check the growth of the bacillus in the subcutaneous tissue. The development of the patch in the back was suspicious. It might have been a simple bed sore or it might have been a spread slowly of the gangrene.

The albuminuria and the jaundice were results of the toxemia, no doubt.

This case therefore, is an example of Gas Gangrene due to Bacillus of B. Aerogenes Capsularis type; and the recovery of the patient, after the demonstration of the Bacillus in his stump wound, is the most marked feature about it. The type of B. aerogenes capsularis grown from a swab from the stump must have been very low in virulence this explaining its presence in the stump but its rapid spreading to the other tissues.

Another notable feature of this case was the absence of a rise in temperature and the absence of a rapid pulse which on the contrary was slow.

The patient although still weak is now able to go about on crutches.

The treatment by exposure to electric light had a most beneficial action and seemed to stimulate the growth of healthy
granulations as well as diminishing the amount of discharge.
STUMP - 24-1-20

FHR