

necessary for any reason to substitute any other antiseptic—for instance, because the infection failed to be overcome or because healing was in abeyance.

#### HISTOLOGICAL OBSERVATIONS.

Tissues were fixed in Zenker's solution usually within a few minutes after excision. Material from twelve cases was examined; these comprised burns of the third degree, carbuncle, cellulitis, osteomyelitis, and recurrence of sepsis in an old healed compound fracture. Inasmuch as the process of formation of granulation tissue and healing of epithelium occurred in uniform fashion throughout the series of over 600 cases, the dozen whose histology was investigated may be taken as fully representative of the behaviour of such wounds under continuous treatment with acriflavine or proflavine.

**Granulation Tissue.**—This shows the usual constituents, without significant abnormality either of a qualitative or a quantitative character (Figs. 1, 2, and 6). (In the depths conversion into more mature fibrous tissue is observed.) It is noteworthy that the embryonic capillary blood vessels as a rule extend right up to the surface, and there red blood corpuscles may be seen within their lumina (Figs. 2 and 6). This agrees with the clinical observation that in cases treated with flavine when the dressing is removed there is a tendency for minute oozings of blood to occur. Further, mitoses have been found repeatedly in the superficial layers. On the surface of the granulation tissue there is frequently an exudate of polymorphonuclear leucocytes of a few cells in depth (Fig. 4). Organisms, if present in it, are so scanty that they failed to be found on microscopic examination of eleven of the twelve cases in sections stained by Gram's method and by thionin-blue. An interesting observation was made with regard to the staining of this layer of leucocytes; it was found that in sections stained with haemalum and eosin the leucocytes, especially at the free surface, might show poor nuclear staining, and the cells appeared necrotic and disintegrating (Fig. 3). However, in sections of the same tissue which were stained with eosin and methylene-blue, all the leucocytes showed well stained, clearly defined nuclei (Fig. 4). The significance of this striking difference of behaviour toward the two reagents is not clear, but it indicates that caution must be employed in interpreting appearances of morphological degeneration. Small haemorrhages, when present, could justifiably be attributed to manipulative trauma. In some cases minute isolated deposits of fibrin, intensely eosinophile and retaining the violet stain by Gram's method, are present amid the layer of leucocytes, and sometimes they extend for a short distance into the granulation tissue. This, no doubt, is the microscopic rudiment of the pellicle of certain observers.

**Epithelial Regeneration.**—In some instances the epithelial margin showed that thinning out which is generally accepted as evidence that the cells are in process of covering the granulation tissue (Fig. 5). Clinical observation has demonstrated that the ingrowth of epithelium proceeded without interruption under the application of flavine; hence other microscopic appearances of the epithelial edge must not be interpreted as evidence of delay or inhibition of its growth. Thus an abrupt, relatively thick edge has been repeatedly seen in cases in which extensive epithelial ingrowth had already taken place and in which this growth continued to progress without interruption subsequently (Fig. 6). The absence of elastic fibres from the subepithelial tissue, as demonstrated by Weigert's method, afforded further confirmation that a region of newly formed tissue was being dealt with.

#### SUMMARY.

The results are recorded of a series of over 600 severe burns and pyogenic conditions treated in hospital wards continuously with flavine antiseptics (acriflavine or proflavine) by a simple method. The points specially investigated have regard to the rate and progress of formation of granulation tissue, ossification, and healing of skin epithelium. Only those cases are considered in which intimate contact of the tissue with the antiseptic occurred. As compared with other methods of treatment, there was clinically no interference with formation of granulation tissue. There was no evidence of pellicle formation or necrosis. There was no tendency to haemorrhage beyond the slight oozing which occurs from the tips of well-vascularized granulations denuded of their surface in the act of changing dressings and which is to be regarded as evidence of their healthy state. Ossification proceeded actively in periosteal granulation tissue under

application of flavine. Epithelial regeneration, both in the form of ingrowth from surrounding skin and from grafts proceeded actively in contact with dressings soaked in flavine solution. Histological examinations in representative, unselected cases have confirmed and supplemented the clinical observations.

#### REFERENCES.

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- <sup>9</sup> Depa e and Maloens: *Ambulance de l'Océan*, 1917, 1, fasc. 2, p. 1.
- <sup>10</sup> Drummond and McNee: *Lancet*, 1917, ii, p. 610.
- <sup>11</sup> Lawson: *Lancet*, June 28th, 1919.
- <sup>12</sup> Ligat: *BRITISH MEDICAL JOURNAL*, January 20th, 1917.
- <sup>13</sup> Pilcher and Hull: *BRITISH MEDICAL JOURNAL*, 1918, i, p. 172; see also Hull, *Surgery in War*, London, 1918, p. 67.
- <sup>14</sup> Wade: *BRITISH MEDICAL JOURNAL*, 1921, i, p. 327.
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## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A CASE OF INTERSTITIAL GESTATION.

THE whole history of the following case—amenorrhoea, passing of blood and decidua, and somewhat sudden onset—pointed even from the first to extrauterine gestation, but it was manifest that nothing short of abdominal exploration could possibly have revealed the exact cause. Interstitial pregnancy is very rare. Personally, I have only seen one other case, so that the unusual features of this one made it appear worthy of record.

On May 31st last I was asked to see Mrs. R., aged 29. She complained of pain in the left iliac fossa, and told me moreover that she was two and a half months pregnant, having had her last period on March 15th. During the night she had passed some blood and membrane per vaginam, the latter having every appearance of decidua. The previous menstrual history was quite normal, and she had had one child. On examination the temperature was 102° F., pulse 120, whilst the abdomen was rather tender over the left iliac fossa. On examination the uterus was found to be enlarged to about the size of an eight to ten weeks' pregnancy. There was nothing to be felt on either side of the womb to suggest ovarian or tubal trouble. I concluded that an abortion was threatening. Twenty-four hours' administration of ergot had no effect, so I admitted her to the Royal Hospital on June 2nd. The next day I examined Mrs. R. under an anaesthetic, dilated the cervix fully so as to admit the index finger, and was rather surprised to find she was not pregnant at all within the uterus. I removed some adenomatous tissue with a blunt curette and again examined the patient, with negative result. My colleague, Mr. R. Massie, who happened to be in the operating theatre at the time, examined her at my request, and agreed with me that beyond the enlargement of the uterus there was no swelling or tumour to be felt. The patient was then put back to bed. On June 4th and 5th her temperature was 99°, and she was fairly comfortable. On the evening of the 6th she began to complain of severe pain on the left side and generally over the pelvic region. The temperature rose to 104° and she had a severe rigor, and again the next morning with the temperature 105°. I saw her at 12.30 p.m. and she appeared very ill. I examined her per vaginam and found that she was extremely tender on the left side, and the left Fallopian tube seemed swollen. It was obvious that the patient was suffering from a very acute pelvic infection affecting the abdominal cavity, so I decided to operate at once.

**Operation.**—On opening the abdomen in the mid-line, I found the uterus enlarged, and in the left cornu was a cystic swelling, purple in appearance, from which was coozing, through a very small hole, some dark brown fluid. Both ovaries were perfectly healthy, as was also the right Fallopian tube and the distal four-fifths of the left one. On opening up the tumour bleeding was profuse. As the patient's condition was critical and the escaping fluid causing severe toxæmia, I decided to perform a supravaginal hysterectomy. At the close of the operation I inserted a rubber drainage tube at the lower end of the incision down into the pelvic floor. The patient is making an excellent recovery.

On examining the removed uterus, I found the whole organ perfectly normal except for the tumour, which was about 2½ inches in diameter, and situated four-fifths in the left cornu of the uterus itself, the other one-fifth involving the isthmus of the left Fallopian tube. There appeared to be no connexion between the uterine cavity and the tumour, but there was between the Fallopian tube and the sac. The tumour itself contained chorionic villi, but no embryo was visible. It was of the size of a three to four weeks' gestation, which had gone on to molar formation.

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WE regret to record the death, suddenly, on August 8th, of Dr. WILLIAM ROBERT WILLIAMS, of Machynlleth, Montgomeryshire. Dr. Williams was educated at Edinburgh, and took the diplomas of L.R.C.P. and L.R.C.S. Edin. in 1888. He was one of the best-known medical practitioners in his district, and held many public offices. He was a justice of the peace, honorary surgeon to the local cottage hospital, assistant medical inspector of schools for the county, and an ex-chairman of the local urban district council. He held a commission as Captain R.A.M.C.(T.), and was attached to the 7th Royal Welsh Fusiliers. He was a member of the British Medical Association. His funeral was attended by a firing party of the 7th Royal Welsh Fusiliers and by a very large assembly of people. He leaves a widow, two sons, and two daughters, with whom much sympathy is expressed.

## The Services.

THE King of Egypt has conferred the Order of the Nile (fourth class) upon Captains Eric D. M. Heriot-Hill and Stanley Arnott, R.A.M.C., in recognition of services rendered during the operations against Aliab Dinkas in the Mongalla Province.

### DEATHS IN THE SERVICES.

Surgeon Commander James Garfit Wallis, R.N., died recently at Plymouth. He was educated at the London Hospital, where he was Buxton Scholar, and took the M.R.C.S. and L.R.C.P. Lond. in 1897, and the M.D. Lond. in 1899. After filling the posts of house-physician and clinical assistant in the aural, ophthalmic, and skin out-patient departments at the London Hospital, and assistant house-surgeon at Poplar Hospital, he entered the navy as surgeon, taking the prize for tropical diseases at Haslar. He attained the rank of surgeon commander on February 25th, 1914, and in April, 1920, was appointed health officer of the port at Devonport.

Lieut.-Colonel John Joseph Falvey, R.A.M.C. (retired), died on May 21st, aged 70. He was born at Tralee, educated at the Ledwich School of Medicine, Dublin, and took the L.R.C.S.I. and L.A.H. in 1876, and the F.R.C.S.I. in 1886. He entered the army as surgeon on August 10th, 1878, and became lieutenant-colonel after twenty years' service, and retired in 1900. He had a long list of war service: the Boer war of 1881 in the Transvaal, including the defence of Lydenburg, mentioned in dispatches; Egyptian war of 1882, medal and Khedive's bronze star; Sudan, 1884-85; Nile campaign, with the heavy camel corps, action of Abuklea, and engagements during return to Korti, two clasps; and South African war, 1889-1900, Queen's medal with clasp.

Lieut.-Colonel James Young, Bengal Medical Service (retired), died at Bedford on July 13th, aged 76. He was the son of John Young, of Bathgate, West Lothian, and was educated at Edinburgh, where he graduated M.B. and C.M. in 1868. He entered the I.M.S. as assistant surgeon on March 30th, 1872; he became surgeon lieutenant-colonel after twenty years' service, and brigade surgeon lieutenant-colonel in 1897; after officiating for some time in the administrative rank as A.M.O. of the Calcutta district he retired, with an extra pension, on March 31st, 1902. He served in the Burma war of 1885-86, taking part in the occupation of Manda'ay, and received the frontier medal with a clasp.

Colonel John Donald Alexander, C.B.E., D.S.O., Army Medical Service (retired), of Bideford, died in Queen Alexandra's Military Hospital, Millbank, on July 9th, aged 55. He was born at Callan, in Ireland, on April 11th, 1867, the eldest son of the late Very Rev. John Alexander, Dean of Ferns, and was educated at Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1889. He entered the R.A.M.C. as surgeon lieutenant on January 30th, 1892, attained the acting rank of colonel on March 23rd, 1916, while holding the post of A.D.M.S. of a Division, was confirmed in that rank on December 26th, 1917; placed on temporary half-pay on account of ill health on November 26th, 1919, and retired on February 3rd, 1920. He served on the North-West Frontier of India in the Tirah campaign of 1897-98, taking part in the capture of the Sampagha and Ashanga passes, the reconnaissance of the Saran San, operations round Dwatol, against the Khanikhel Chamkanis, and in the Bazar Valley, and in the action at Shinkaman, receiving the frontier medal with two clasps. In the South African war of 1899 to 1902 he served in the relief of Ladysmith, action at Colenso, operations on Tuge's Heights, action at Pieter's Hill, the relief of Mafeking, and the action at Frederikstadt, was mentioned in dispatches, and received the Queen's medal with five clasps, and the King's medal with two clasps. His services in the recent war of 1914-18 were mentioned in dispatches in the *London Gazette* of January 4th and May 29th, 1917; he received the D.S.O. on June 3rd, 1917, and the C.B.E. on June 3rd, 1919.

Captain Ernest Neville Keys-Wells, R.A.M.C.(T.F.), died in London on July 30th. He was the fourth son of the late Rev. William Keys-Wells, of Clifton Rectory, Penrith, and was educated at Edinburgh, where he graduated M.B. and C.M. in 1888. He served as a civil surgeon in the South African war, in the operations in Natal, receiving the Queen's medal with a clasp. In the late war he held a commission as captain R.A.M.C.(T.F.) in the 3rd London General Hospital from March 19th, 1915.

## Medical News.

SIR WM. THORBURN, K.B.E., C.B., C.M.G., F.R.S., has been appointed a member of the Advisory Committee under the Administration of the Cruelty to Animals Act.

THE King of Egypt has conferred the Order of the Nile (third class) upon the following in recognition of valuable services rendered: Dr. Harold Benjamin Day, professor at the School of Medicine, Cairo; Mrs. Cornelius B. S. Elgood, M.B., senior lady medical officer, Egyptian Ministry of Education; and Dr. Alexander A. W. P. Murison, medical officer, Egyptian State Railways.

THE King has approved the retention of the title of Honourable by Dr. Charles Ferdinand Marks and Dr. William Frederick Taylor, who have served continuously for a period of not less than ten years as members of the Legislative Council of the State of Queensland.

THE following members of the British Medical Association have been appointed Knights of Grace of the Order of St. John of Jerusalem: Major J. R. Williams, Penmaenmawr (late High Sheriff of Carnarvonshire), and Surgeon Lieut.-Colonel J. D. Lloyd, Chirk.

SPECIAL courses in diseases of the heart and gynaecology will be held at Franzenbad (Czecho-Slovakia) from the 21st to the 24th of September by Drs. A. Ghoul, R. Jaksch, R. Schmidt, and G. A. Wagner of Prague, J. Halban, F. Hitschmann, J. Pal, and H. Thalimer of Vienna, H. E. Hering of Kiel, R. T. von Jaschke of Giessen, H. Kehr of Dresden, O. Minkowski of Breslau, Seitz of Frankfurt, Volhard of Halle, G. Winter of Königsberg, and K. Zörkendorfer of Prague.

AMONG the recipients of civil pensions is Dr. Francis Warner, who in consideration of his circumstances receives £100 in recognition of services rendered in his investigation into the mental and physical condition of defective children.

THE Scottish schools have been celebrating the close of the term by speech days. At the ceremony at Ballachulish Dr. Lachlan Grant not only gave an address, but supplied the prizes, which the education authority, for reasons of economy, had ceased to give. At the Morrison Academy, Crieff, the medal was presented to the dux by Dr. Gairdner, who, in an address, mentioned that he himself had received the medal in 1862, and that he had since been for fifty-five years medical officer for Crieff.

THE annual dinner of past and present students of University College Hospital will be held at the Hotel Cecil on Friday, October 6th, 7.30 for 8. The chair will be taken by Sir Dawson Williams, C.B.E., F.R.C.P., Editor of the *BRITISH MEDICAL JOURNAL*. The secretaries are Dr. A. M. H. Gray and Mr. Gwynne Williams, 30, New Cavendish Street, W.

THREE blind students (two civilians and one ex-soldier), trained at the Massage School of the National Institute for the Blind, have passed the recent massage and remedial gymnastics examinations of the Society of Massage and Medical Gymnastics. Another civilian student, for whom the National Institute paid fees and expenses at a Liverpool massage school, has also passed the massage examination. Two blind women masseuses have passed in remedial gymnastics.

DURING last June 481 deaths from plague occurred in Java; in June, 1921, the number of deaths from this cause was 520.

ROENTGENOLOGY has recently been made a compulsory subject for the medical curriculum in Rumania.

AT Wimbledon police court, on August 8th, James Allport, described as a pathologist, of Cheltenham, was charged with unlawfully and wilfully pretending to be a registered medical practitioner. A full report appears in the *Wimbledon Boro' News* for August 11th. Mr. G. D. Roberts, instructed by Messrs. Hempson, prosecuted on behalf of the Medical Defence Union; there was not, he said, anything to prevent a man practising medicine, whether he was registered or not, if he could find people to entrust themselves to his tender mercies, but the law said it was an offence to pretend to be a registered medical practitioner if you were not. The accused was engaged through an agency as a locum tenens by Dr. Sweetnam of Wimbledon Park, who believed him to be a registered practitioner, and he attended patients and signed medical certificates. The accused said that he told the agents that he was not qualified for general work, and also that he had tried to get bacteriological or x-ray work. During the war, he said, he had been an acting medical officer at an infirmary. After evidence had been given of certain other charges against him Allport was fined £20, with the alternative of three months' imprisonment, on the charge of pretending to be a registered medical practitioner, and sentenced to three months' imprisonment on other charges.