drilled through the projecting upper end of the trap-door to take the thick end of pin *A*.

E is the spring of the trap, made of a bent strip of bamboo wedged at one end into the trap chamber and having the string operating the trap-door passing over the other end, and held in position by a small notch on either side. The tension of the bent bamboo holds the door tightly closed.

D is a bamboo peg which has two notches cut on it. This peg slips into a small round hole in the top of the trap chamber. The lower notch prevents the peg from slipping out, while the thinner end of the pin *A* engages in the upper notch when the trap is in the "set" position.

A is a tapering pin made from bamboo, attached about half an inch from its thicker end, by means of a string, to the upper end of the bamboo spring *E*. In the "set" position this pin stretches across, more or less horizontally, from the loop at the top of the trap-door to the upper notch of the peg *D*.

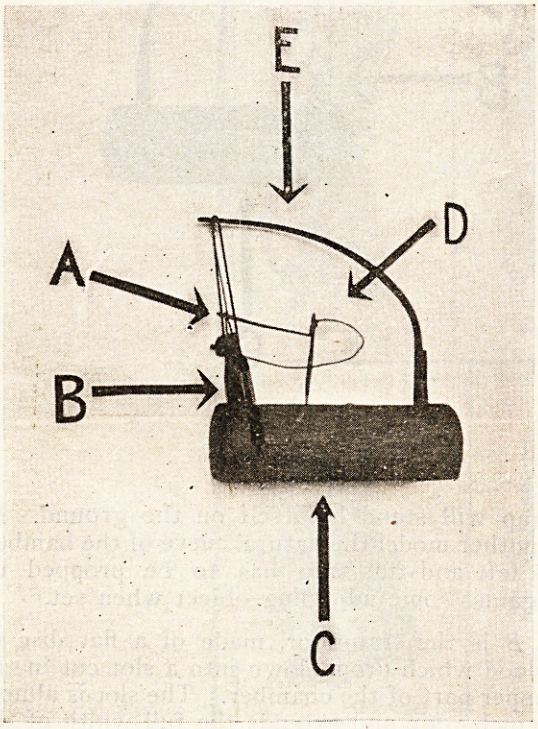

Fig. 2.

Fig. 2 shows the trap in the "set" position, and a comparison between the two figures will make the mechanism of the trap clear. To set the trap the spring *E* is pressed down and the trap-door raised. Peg *D* is placed in position, so that the lower notch engages with the edge of the hole in the top of the chamber. Pin *A* is then placed carefully in position. The trap-door is now held up by the pin *A*, while the lower end of the peg *D* projects into the interior of the chamber.

To bait the trap all that is required is to drop a little rice or other bait into the chamber, so that it passes beyond the projecting lower end of the peg *D*. A rat on entering the trap cannot get through to the bait without disturbing the lower end of peg *D*, which dislodges the thinner end of pin *A* from the upper notch on peg *D*, thus enabling the spring *E* to straighten and slam the trap-door shut.

The writer is indebted to Major Duckworth for presenting these interesting traps to the Museum of The Harcourt Butler Institute of Public Health. The traps have been tested in the Institute and have been found highly efficient.

TUBERCULOSIS OF THE BODY AND CERVIX OF THE UTERUS.

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THE most frequent site for tuberculosis in the female genital organs is in the Fallopian tubes. Tuberculous salpingitis usually occludes the inner portion of the tube, so that the tubal contents do not gain easy access to the uterine cavity.

When the corporeal endometrium is involved, the tubes are nearly always affected.

It is rather difficult to find tubercle bacilli in vaginal discharges from a case of tuberculous endometritis. If the endometrium is ulcerated and caseous material is being discharged, then possibly tubercle bacilli may be found.

Cases of tuberculous endometritis are rarely diagnosed clinically, and so they escape bacteriological examination of the leucorrheal discharges.

Curettage of the endometrial cavity is a better method of diagnosis, and it is employed as a routine in the Eden Hospital for such purposes. It is a desirable procedure, as it clears up the suspicion of malignancy for which tuberculosis is often mistaken.

During the past four years a number of cases of tuberculosis of the body of the uterus and cervix have been encountered in the Eden Hospital, and the following are brief descriptions of the conditions present.

Tuberculosis of the cervix is a rare infection. It may be primary or secondary,—the latter being by far the more frequent. Tuberculosis by extension is by no means infrequent in the external genitalia.

In four out of six cases of cervical tuberculosis studied in the Eden Hospital, involvement of some portion of the genital tract above the internal os was recorded. In the other two the condition seemed to be primary in the cervix.

PLATE I.

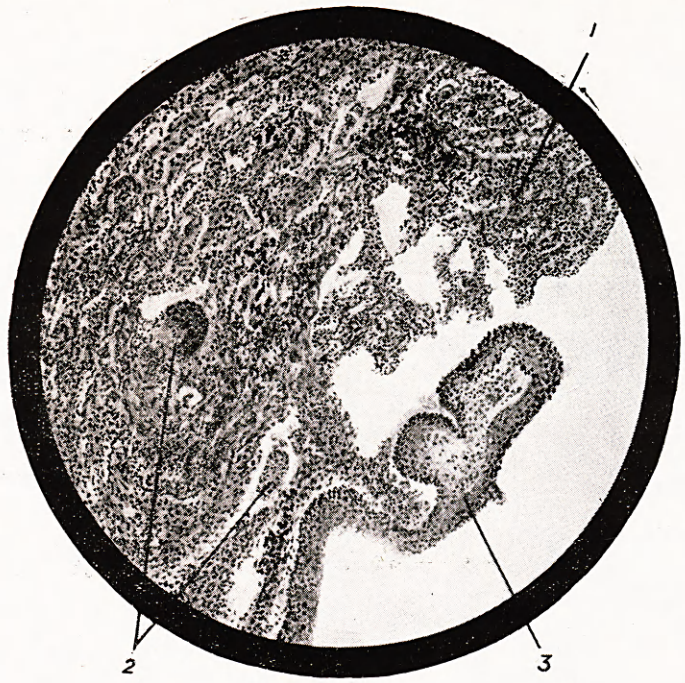

Fig. 1

Fig. 2.

PLATE II.

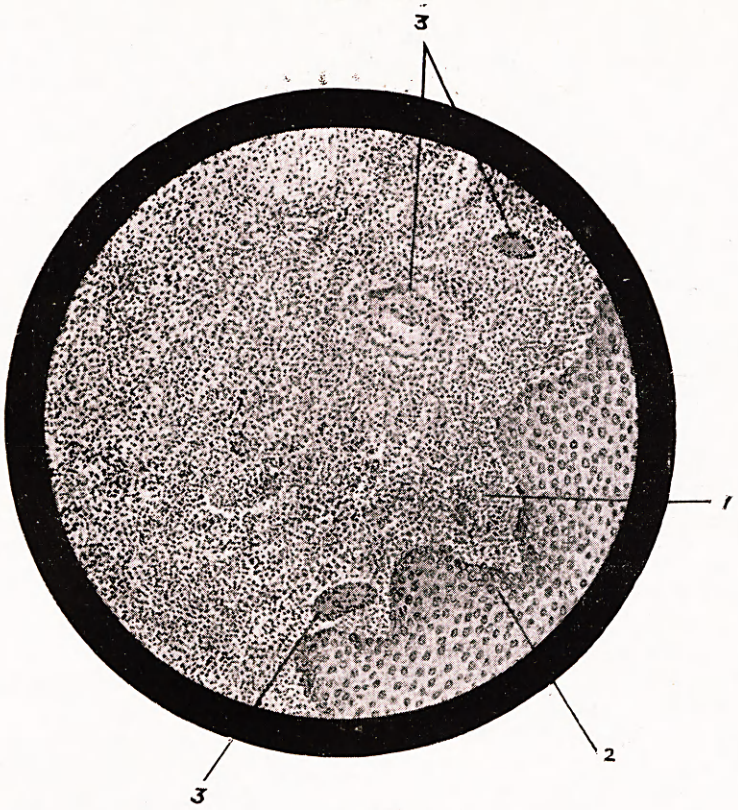

Fig. 3.

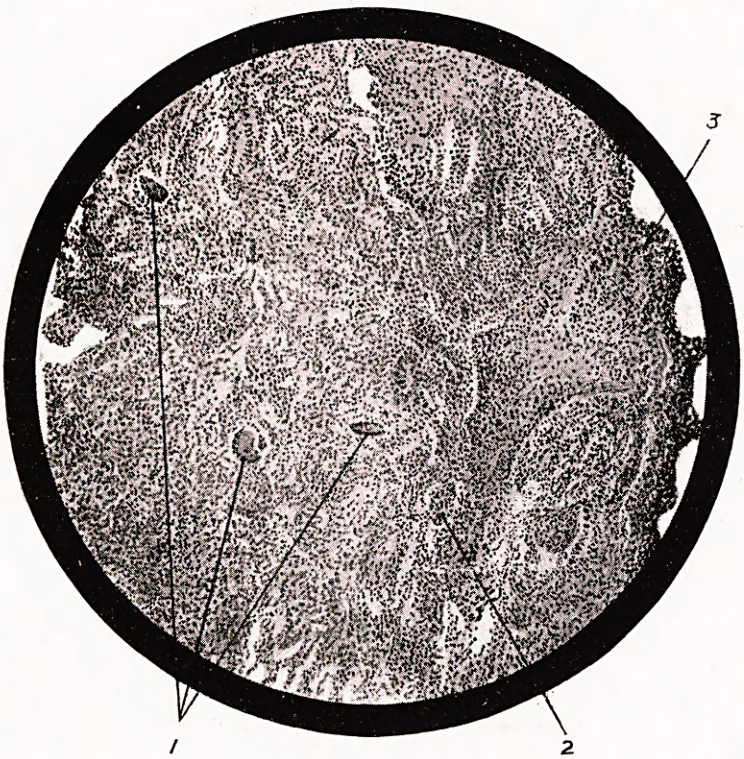

Fig. 4.

Primary lesions in the lungs are the most frequent occurring in tuberculosis, but none of these cases showed any evidence of pulmonary involvement. Pre-existing inflammation in some form is perhaps a predisposing factor, but nothing can be said definitely as to the etiology. No age is immune. Five of our cases occurred during the active sexual life.

Short histories and pathological reports of the cases encountered in the Eden Hospital are as follows:—

Case No. I. Tuberculous Endometritis.—Mrs. H., European female, aged 24 years, admitted in January 1923, for the following complaints:—

(*a*) An almost continuous sharp pain in the region of the left lower abdomen.

(*b*) Leucorrhœal discharge.

(*c*) Scanty irregular menses.

These symptoms began about three years previously.

There was no history or physical evidence of tuberculosis in any other part of the body.

Obstetrical History.—No child. No miscarriage. No abortion.

Examination per Vaginam.—One small tumour, the size of a large pea, felt on the right lateral wall of the uterus.

Patient admitted for fibroid of the uterus and dysmenorrhœa.

The uterus was curetted and the curettings were taken for pathological examination.

The shreds of mucosa removed by the curette were particularly friable and of a yellowish colour.

Under the microscope, characteristic nodules with epitheloid and giant cells were seen. There were collections of lymphocytes within the connective tissue, and the uterine glands were hypertrophied, showing proliferation of the epithelium (Fig. 1).

Case No. II. Tuberculous Cervix.—B., Hindu female, aged 40, admitted in July 1921, for the following complaints:—

(*a*) Blood discharge for a week after a period of amenorrhœa for 2 years.

(*b*) Pain in the pelvic region for 2 weeks.

(*c*) Increasing leucorrhœa for several months—rather thick, fœtid, glairy material.

No evidence of tuberculosis in any other part of the body could be detected.

Obstetrical History.—Thirteen children, two abortions, last pregnancy *ten years back.*

14*th July*, 1921. *Examination per Vaginam.*—Uterus —small, lying anteverted. Anterolateral cul-de-sac, clear. Posterolateral cul-de-sac, fixed. Cervix felt to be swollen and somewhat œdematous. A small polypus projects from the posterior lip.

Inside, the cervix is nodular and hard.

With the Speculum.—A hard nodular lump of the size of a pea was projecting from the cervix. It was vascular and friable and clinically diagnosed as malignancy of the cervix, infiltrating the utero-sacral region.

A wedge-shaped portion of the tumour was removed for diagnosis.

Pathological Report.—Sections show fibrous tissue and benign adenomatous cervical glands and inflammatory changes. Giant cells are present.

Diagnosis.—Tuberculosis of the cervix.

19*th July*, 1921.—The patient was again examined and the condition found to be the same as before.

21*st July*, 1921.—The abdomen was opened and the peritoneum was found firmly adherent to the parietes.

On opening the peritoneum the intestines were found studded with miliary tubercles. The tubes on either side were similarly affected and matted together with the surrounding structures.

The cervix was again examined and found to be hard. A portion of it was removed for histological examination. It cut with a grating sensation and there was no bleeding.

Section (*Fig. 2*) *shows.*—The squamous epithelium is intact. Typical tubercles with giant and epithelioid cells are present. There are also collections of lymphocytes in the connective tissue. The clinical similarity of this condition to that of malignancy is noteworthy.

Case No. III.—P., Hindu female, 24 years of age. For four months there had been increasing leucorrhœa. Physical examination did not show evidence of tuberculosis in any other part of the body. Examination of the cervix showed slight ulceration which was purplish in colour. The body of the uterus and its appendages seemed normal. Sections from the cervix showed the usual histological picture of tuberculosis (Fig. 3).

Case No. IV.—C., Hindu female, aged 21, nullipara, complained of leucorrhœa for several months. Menstrual history, normal. No evidence of tuberculosis in any other part of the body. Examination of the cervix showed it to be red and ulcerated and it felt as if it were malignant. Histological examination of a piece of the cervix showed it to be tuberculous (Fig. 4).

Case No. V.—M., Mohamedan female, aged 30 years, nullipara, had irregular menses and leucorrhœa for several months. She complained of irregular fever for some time. Examination showed the body of the uterus about three-fourths of the normal size, lying anteverted and freely movable. There was a large erosion of the cervix. The whole cervix was inflamed and more or less covered with papillomatous outgrowths which bled easily. There was a thick purulent discharge.

Physical examination of the lungs did not show any evidence of tuberculosis, but she had previously had a slight hæmoptysis. Pathological examination of a wedge-shaped piece from the cervix showed it to be tuberculous. Sections showed characteristic tubercular nodules with giant cells. Sputum negative for tubercle bacilli.

Panhysterectomy and bilateral salpingo-oophorectomy was performed. The cervix, the body of the uterus and the tubes were found to be involved.

Case No. VI.—S., Hindu female, multipara, 24 years of age, suffered from amenorrhœa, rather profuse leucorrhœa, and occasional attacks of pain in the groin for 2 years. The cervix was hypertrophied and showed a bilateral tear.

It was soft and bled slightly on being touched. The uterus was somewhat fixed and there was some thickening on both sides. There was no evidence of tuberculosis in the lungs or elsewhere in the body.

Pathological examination of a wedge-shaped piece from the cervix provided the diagnosis. Sections showed characteristic tuberculous nodules with giant cells.

A description of these cases is published on account of the comparative rarity of the condition, and of the fact that an unusual series of them has been met with here during the last five years.

Interesting features are:—

(*i*) The fact that in none of the patients could any pulmonary involvement be detected on physical examination at the time, although Case No. V had had a hæmoptysis. Their subsequent histories could not be obtained.

(*ii*) In two of these cases the condition seemed *primary* in, and limited to the cervix, Nos. III and IV.

(*iii*) The difficulty in deciding the diagnosis without resorting to the examination of microscopical preparations of the tissue.

I express my gratefulness to Colonel Leicester, F.R.C.P., I.M.S., Colonel Green-Armytage, F.R.C.P., I.M.S., and also to Major-Shanks, M.D., I.M.S., for giving me all possible facilities.

TICK-TYPHUS AND OTHER SPORADIC FEVERS OF THE TYPHUS GROUP.

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and
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DURING the past ten years there has been a steadily increasing interest in the typhus-like fevers which occur sporadically in many parts of the world. It is now evident that this disease group is of considerable importance, not only because of the frequency with which people are affected, but also because of the difficulties which arise in connection with the diagnosis, and the mystery which attaches to the mode of transmission in most cases.

Some of the outstanding features of several of the recorded fevers of the typhus group are given in the table inserted in this paper; from this it will be seen that there are certain points in which the outbreaks resemble each other, although there are some respects in which they differ from each other.

Typical temperature charts from some of the records are given; these will be of help to those who come across cases of such fevers.

The literature of the subject has become rather extensive and so it is considered useful to give a brief summary of the chief contributions to the subject.

Anticipating the logical sequence of the story, it may be pointed out that there are three definite diseases which belong to the main typhus fever group.

(1) Louse-borne typhus.

(2) Tick-borne typhus (Rocky Mountain spotted fever is the only form which has been thoroughly investigated), and

(3) Mite-borne typhus (Japanese river fever and pseudo-typhoid fever of Deli belong to this group).

There are many other records of typhus-like fevers, most of which deal with sporadic cases of unknown or doubtful vector.

It is necessary at the outset to emphasize the importance of a study of these diseases, Dr. E. W. Goodall in the *British Medical Journal* of 10th December, 1927, writes: "Attempts have been made to differentiate a new form of typhus as a new disease in various parts of the world (India, Australia, the Malay peninsula), and another reason has been urged for the distinction—namely, that the infection is believed not to be conveyed by lice. But if the mode of spread is to be used as a criterion of distinction, then we had better call milk-borne scarlet fever 'Power's disease' and so on. 'Brill's disease,' and 'tropical typhus' are typhus fevers pure and simple; and it will only lead to confusion to continue the use of the newly applied names."

If we are to accept Dr. Goodall's drastic suggestion we might at once disqualify the Rocky Mountain fever and the Japanese river fever, for both of these diseases show very striking clinical resemblances to louse-borne typhus and nobody has yet proved that their virus is essentially different from that of typhus. But even if Dr. Goodall would not go so far as this, does he seriously suggest that it is unimportant to determine whether a fever of the typhus group is conveyed by lice or by ticks? The nature of the vector is so important in connection with diagnosis, management of the cases and prevention that the differentiation is not a mere academic question, but one of the first class practical importance.

Probably Dr. Goodall will support our contention that all the diseases which show the clinical picture of typhus should be classed in one group—the typhus-fever group—but it is to be hoped that he will not deter workers from attempting to classify the types of the disease in terms of the vector, as this is a very essential factor in the practical management of the diseases.

Brief Note on the Typhus-like Fevers of India.

In the *Indian Medical Gazette* of January 1917 the senior writer described an attack of typhus-like fever from which he suffered in June 1916. The probable vector was a tick which had remained in situ on the patient's body for about twelve hours. The tick had been encountered in the Kumaon Himalayas in a locality in which sporadic typhus-like fever was notoriously common, as had already been shown by Lt.-Col. McKechnie, I.M.S.,(1) in 1913. Apart from the Rocky Mountain fever this was probably the first case in which a typhus-like fever was definitely attributed to a tick-bite, although McNaught(2) had incidently mentioned that Col. Maher suspected ticks of being connected with a similar kind of fever in South Africa.

The publication of this paper resulted in further evidence being brought to notice of the occurrence of typhus-like fever under circumstances which suggested the tick as the vector, and in the *Indian Medical Gazette* of October 1921, a further note was written in which this evidence was given and a suggestion was made that "tick-borne typhus" might be found to be widely distributed in India and in other parts of the world, also