

ADVANCED PELVIC TUBERCULOSIS

by

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In spite of the large number of papers that have recently appeared in the literature on pelvic tuberculosis, there is no uniformity of opinion regarding the incidence, diagnosis, classification and management of this disease. Tom Barns has tried very carefully to evaluate the natural history of pelvic infection with the tubercle bacillus. The majority of cases reported by different authors are usually drawn from the Fertility Clinics. The incidence varies markedly. Halbrecht and Sharman found tubercular endometritis in 5 to 5.5% of their cases whereas Grant and Mackay found it to be only 1%. Auerbach performing autopsies on tuberculous women found genital tuberculosis in 9.1%. The incidence of involvement was: tubes 94.2%, uterus 55%, ovaries 26%, and cervix 3.6%. These findings are in agreement with those of other authors. The diversity of clinical signs and symptoms presented by these patients often makes diagnosis a very real problem. Not a few of them are first correctly diagnosed on the operating table. Due to lack of a correct diagnosis and proper planning the treatment of these pa-

tients presents innumerable difficulties.

Cases of pelvic tuberculosis may therefore be divided into two main groups according to their clinical manifestations.

We are familiar with the larger group designated as 'silent tuberculous endometritis' by John Stallworthy. The patient here usually seeks medical advice for infertility or some menstrual disorder. Pelvic examination often reveals no abnormality at all. The patient may be healthy and well nourished and may hardly give any clue of the true nature of the disease. The diagnosis is usually made in the course of an investigation for infertility by endometrial biopsy.

The other series which is very much smaller consists of Advanced Pelvic Tuberculosis, some of whom may be admitted as acute gynaecological emergencies. These patients often have a long history of chronic sickness and have been in and out of hospital a number of times vainly seeking admission with the hope of a cure. Rest and drugs bring some relief, only to be followed by a flare-up. The correct diagnosis may then be clinched only on opening the abdomen. In the last eight years I have

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personally looked after 27 such cases. Listed down below are the provisional diagnoses under which the cases were admitted:

Tubercular endometritis ..	5
Metropathia ..	2
Multiple fibromyomata ..	4
Twisted ovarian tumour ..	1
Ectopic pregnancy ..	1
Encysted peritonitis ..	4
Bilateral tubovarian masses ..	4
Uterine tumour with discharging sinus ..	1
Ovarian tumour ..	1
Tuberculous peritonitis ..	3
Cancer cervix ..	1

From the above it is quite clear that cases of genital tuberculosis may present a very varied picture. Most of the above cases are those of advanced pelvic tuberculosis and the patient may be quite ill on admission. The gross picture on laparotomy can usually be divided into the following classes:—

In the *first group* the main characteristic is the presence of a large amount of organised exudate which binds all the structures with dense adhesions. The latter are exceedingly tough and make dissection very difficult. The uterus and the tubes may be completely lost making identification a problem. These cases often give rise to serious errors in clinical diagnosis. Townsend in his series of 30 cases showed that only in one case was a correct provisional diagnosis made. When the tuberculous masses are adherent to the omentum or the small intestines, which are comparatively mobile, a false sense of mobility is obtained giving rise to gross errors in diagnosis. Alternatively, when

the mass contains hard caseating areas which are partially calcified, a mistaken diagnosis of multiple fibromyomata is made.

The *second group* presents miliary tubercles, scattered over all the organs, including the peritoneum with a variable quantity of free fluid. The latter has all the characteristics of an exudate. There may be minimal or no adhesions whatsoever. *Lastly*, the picture may be one of acute inflammation and the tubes may be inflamed and congested and replaced on one or either side by a pyosalpinx. The picture looks quite typical of acute gonorrhoea, and the diagnosis may remain in doubt even after opening the abdomen. Only a histological examination may give a clue as to the real nature of the lesion. *Lastly*, the uterus, tubes and ovaries may look so completely normal that no suspicion of the disease may be entertained even after the operation is over.

History

As agreed by everyone a careful painstaking and accurate history is very helpful in these patients. O'Driscoll found associated active lesions in the chest and abdomen. Only one of the patients in our group had an active pulmonary lesion. Haines reports a personal history of pleurisy, pulmonary or abdominal infection in nearly 50% of his cases and a family history of 20%. Tom Barns showed co-existing lesions in 73% of his cases. In 10 of our patients a significant past history could be obtained preoperatively. Here a special reference may be mentioned that after a patient has been told that she is suf-

fering from genital tuberculosis, she may suddenly recollect useful and relevant facts in her past history of illnesses and contacts. This happened in four of our patients.

Pain. This is a very common symptom and some history of pain was present in 80% of the cases. It is usually felt in the lower abdomen and is moderate in type. Sometimes the pain is very severe and its cause remains obscure even after performing a laparotomy. Schaffer is of the view that the severe attacks of pain are due to a secondary infection.

Menstrual Disturbances. Though amenorrhoea is usually cited as the commonest irregularity, menorrhagia is by no means uncommon. Stallworthy reports it in 50% of his cases. It was present in six of our cases and in eight others the menstrual pattern was unchanged. In 5 patients there was irregular bleeding while in the remaining eight the amenorrhoea varied from 2 months to 3 years. Amenorrhoea appeared to be commoner in cases with co-existing extra-genital lesions.

Infertility. It is another symptom commonly associated with genital tuberculosis. 9 patients had children previously and 3 gave a history of abortions. One patient was not married. In six of the parous patients the symptoms started after an abortion or a delivery. There appears to be some correlation between the onset of the symptoms and the pregnancy.

Signs. Due to the advanced nature of the lesion the signs vary markedly. In most of these cases the pelvic infection has been present for a considerable period. There are masses, induration and diffuse spread to all the

pelvic viscera. A typical example which may be cited is of patient R. Rani, aged 21 years, who was admitted with a history of acute attacks of abdominal pain and vomiting, duration 12 hours. The pain had first been mild for 3 days and then suddenly increased since last night. There was no relevant past history except that she used to get lower abdominal pain off and on for the last 3 years. Periods were regular but inclined to be scanty. She was married 4 years ago and had an abortion at 3 months, 3 years ago, when the pain started. L.M.P.—15 days back. On admission, patient had moderate distension, was dehydrated and looked quite ill. On abdominal palpation there was tenderness all over but it was more marked in the left lower quadrant where a mass with indefinite margins could be felt 3 fingers above the symphysis pubis. Vaginal examination revealed the cervix pushed to the left side, uterus anteverted, mobility restricted, normal in size, lying in the right fornix. Cystic mass, size of a cricket ball, slightly mobile, occupied the left and partially the anterior fornix. Speculum examination showed a congested cervix. Provisional diagnosis: Torsion of the ovarian cyst. The patient's blood picture showed a moderate anaemia. CSR was not raised. As the patient was in acute pain, immediate laparotomy was done and the whole abdomen was found studded with tubercles. There was a large tubo-ovarian mass on the left side and a smaller one on the right. Both the masses were bound down and firmly adherent to the small intestines. On further exploration two bands of adhesions were seen on the left side

constricting the bowel making it look angry and congested. The intestines below the constriction were empty. The bands were released and biopsy from the omentum was taken. Nothing further was done as the condition of the patient was not so good.

Another case, Parkash Wati, was admitted with a history of acute attacks of abdominal pain, nausea and giddiness for the last 10 days. She gave a history of irregular bleeding for the last 15 days following an amenorrhoea of 2 months. Per abdomen nothing special except for tenderness and some guarding of the whole of the lower abdomen. Pelvic examination revealed a soft swelling in the left fornix extremely tender. Right fornix relatively clear. Uterus bulky pushed anteriorly by the mass. Exquisite tenderness on movement of the cervix pulsation ++, in the left fornix P.S. cx. blue. Blood examination nil special. Needling, negative from the pouch of Douglas. Provisional diagnosis? Ectopic? T.O. mass. On laparotomy both tubes and uterus were found to be inflamed and congested. The rest of the abdomen was negative except for some enlarged glands in the mesentery. The left tubo-ovarian mass was gently dissected and it burst during removal letting out some thick yellow pus. As the real nature of the lesion was not recognised and the patient was only 23 years old the other tube and ovary were not removed.

Histological Diagnosis. In 8 patients a pre-operative diagnosis of pelvic tuberculosis was made, while in 3 others the history, symptoms and signs were in favour of this disease, but the curettings was negative. In a

further four patients the endometrium was found to be positive after the laparotomy had been performed. In the early part of the study only endometrial biopsies were done but now dilation and curettage is performed as a routine under proper aseptic precautions. No complications of any serious nature have been observed in the last 19 cases by this procedure. Endometrial biopsy may give a false negative due to various causes. The tissue may be too scanty or the strip may be taken from the healthy portion of the endometrium. In order to get a positive report the curettings should be taken in the premenstrual phase, as the tubercles are then best developed. A negative biopsy may be succeeded by a positive report. Professor Berge showed that even 3 negative biopsies performed over a period of 2 years could be followed by a positive report. As the uterus is involved only in 50% of the cases of pelvic tuberculosis a negative endometrium does not necessarily mean absence of tuberculous salpingitis. Similarly, when antibiotics are exhibited and the endometrium becomes negative we can never be sure that the disease in the tubes is also cured. Lastly, according to Macdonald and Weed, the histological picture of endometrial tuberculosis may be caused by other factors like trauma, foreign bodies, etc.

In the above 22 cases where one or both tubes were removed all were positive for tuberculosis. Out of twelve uteri removed only nine showed a positive histology. The ovaries were only positive four times and one gland biopsy also was positive. Tuberculosis of the cervix was met with

twice only in these cases. Cervical involvement is usually a late feature of the disease and is rarely seen. The appearance of the cervix may vary from an overgrown erosion to a real punched out ulcer with undermined edges indistinguishable from carcinoma of the cervix. The difficulty in diagnosis may be illustrated by the patient, Ratan Mala, who was referred to us for cancer of the cervix from outside with a positive biopsy. On examination she was a moderately nourished woman, with scarcely any anaemia. Vaginal examination showed a hard hypertrophied indurated cervix with a large crater-like ulcer with undermined edges. The uterus was anteverted, bulky with restricted mobility, and both fornices contained masses which appeared matted and immobile. Provisional diagnosis: Cancer cervix with bilateral tubo-ovarian masses. Wertheim's hysterectomy was decided upon. All the investigations like X-ray chest, E.C.G., blood sugar and blood urea, complete blood & C.S.R. intravenous pyelogram, etc. were all normal. Due to induration of the pelvic cellular tissues the operation presented many technical difficulties and the dissection was really difficult. There was a mass of matted glands in relation with internal iliac vessels on both sides. These were dissected away with great care. Patient had an uneventful recovery. The histological report came as a surprise. Cervix, uterus, tubes, ovaries and glands all were positive to Koch's lesion. No sign of carcinoma could be discovered even on serial sectioning. Carcinoma and tuberculosis may, however, rarely exist side by side. (Figs. 1, 2, 3).

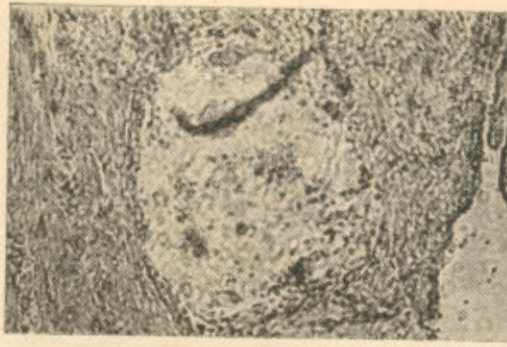


Fig. 1
Cervix.

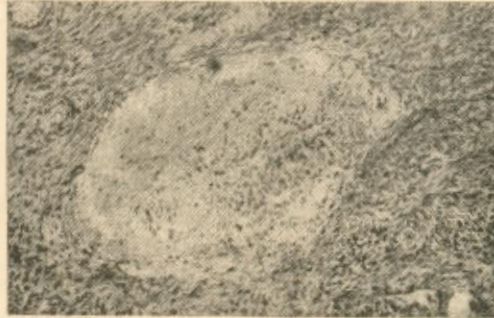


Fig. 2
Ovary.



Fig. 3
Gland.

Treatment

This can be sub-divided under 3 main headings namely: radiation, antibiotics and surgery. In spite of the encouraging results reported by

Campbell, therapeutic radiation was not employed in any of these cases.

Antibiotics. These are undoubtedly of value in the treatment of pelvic tuberculosis. There are, however, several questions which have still to be answered before the exact status of drugs in the treatment of pelvic tuberculosis can be assessed. At present, there are numerous divergent views regarding dosage, duration of administration and combination of different drugs. It is generally conceded, however, that the cases suitable for drug therapy alone are those of minimal or early pelvic tuberculosis. In the advanced group of cases with palpable masses, drugs alone have a limited application. Hardly any change in the size of the tubo-ovarian masses was noticed in the cases where drugs were administered. The combination of antibiotics in the early part of the study was PAS and streptomycin. In known cases of pelvic tuberculosis the preoperative administration has varied from 3 weeks to 6 months. Under drug therapy the patient improved in health, put on weight and the ascites usually responded fairly well with reduction in the size of the abdomen. Not only was there little change in the size of the adnexal masses but cases with encysted peritoneal effusion were also unaffected with drugs. There were four cases with encysted peritoneal effusion varying from 20—28 weeks pregnancy who had finally to be drained by laparotomy. The schedule of treatment followed has been to give Inj. Streptomycin 1 gm. O.D. for 3 to 6 weeks in combination with Isonex or P.A.S. During the period the patient usually becomes afebrile and

puts on weight. The adnexal masses even though they show no reduction in size tend to become more mobile and the patient with amenorrhoea often starts menstruating. With extra-genital lesions Inj. Streptomycin 1 gm. O.D. is continued till such lesions are completely healed. When the acute symptoms have abated Inj. Streptomycin is given 1 gm. twice a week with full doses of Isonex or P.A.S. Even after six months of treatment tuberculous lesions have been found to be active in the tubes and sometimes in the uterus as well as seen by laparotomy. The difficult questions are: What is the right time to intervene? How long should the antibiotic therapy be continued? Much more work needs to be done before we shall know the answers. The reaction of the tuberculous lesions to drugs has been seen to be of two types. In some cases obvious signs of healing can be seen and the adhesions become thin and filmy allowing easy dissection even though all the organs look red and congested. In the second type the dense and tough adhesions are not affected at all even after 4 to 6 months of therapy. Operation is exceedingly difficult. There appears to be no method by which this change of response may be assessed before laparotomy.

In two cases where the temperature and toxæmia resisted streptomycin, P.A.S. and Isonex, Delta Cortril was given with excellent results in combination with anti-tuberculous drugs.

Surgery

The immediate results of surgery combined with antibiotics are cer-

tainly encouraging in the advanced type of pelvic tuberculosis. Due to inadequacy of proper and prolonged follow-up it is difficult to assess the late results. Quite a few of these cases had been chronically ill and in and out of hospital several times before they were treated surgically. We are all agreed with Sered and Falls, Burrow and Batts, that hysterectomy, combined with bilateral salpingo-oophorectomy, gives the best results. There are, however, a number of problems which hinder radical surgery. First and foremost amongst these is the very young age of the patients and their extreme reluctance to part with their uterus. The absence of offspring is a further complicating factor. In this group two-thirds of the patients were below 30 years while 3 patients were less than 20 years. The other difficulties may be a wrong pre-operative diagnosis, the extent of the lesion and the dense adhesions. Only twelve out of 27 patients could have hysterectomy with bilateral salpingo-oophorectomy. In one of these patients, who had a very severe menorrhagia, laparotomy showed presence of tuberculosis in the pelvis and some in the upper abdomen involving the intestines as well. In view of the bleeding, hysterectomy with bilateral salpingo-oophorectomy was done. Except for a highly febrile course post-operatively the patient recovered without much difficulty. In ten patients incomplete surgery, salpingectomy or salpingo-oophorectomy, unilateral or bilateral, was performed. Immediate post-operative results were definitely encouraging. (Figs. 4, 5). There were no fistulae and no serious



Fig. 4
Tube three months after treatment still positive.

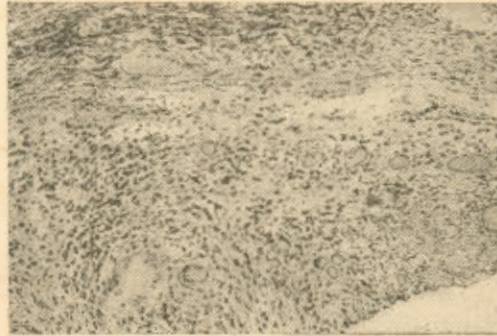


Fig. 5
Ovary three months after treatment.

complications. In four cases the encysted fluid was drained and of these one had radical surgery. All four had had prolonged trial with drugs before submitting them to surgery. Though bilateral salpingectomy is the minimum surgery that should be carried out in a case of pelvic tuberculosis in view of the fact that some cases were only diagnosed post-operatively the proper treatment could not be carried out. With a better understanding of the lesion, routine curettage, X-ray chest, combined with pre-operative antibiotics, better and complete surgical treatment has been possible. Post-operative course has been found to

be very much smoother and easier after pre-operative drug therapy. Patient Sherbati, 25, H.F. was admitted with high fever and bilateral T.O. masses. After 66 gm. of Streptomycin and Isonex (100 mgms. T.D.S.) and five months' stay in hospital pan-hysterectomy was done with very good results. Post-operative course was completely afebrile. Uterus, tubes, ovaries all showed presence of tuberculous lesions in spite of drug therapy. (Figs. 6, 7). She has been

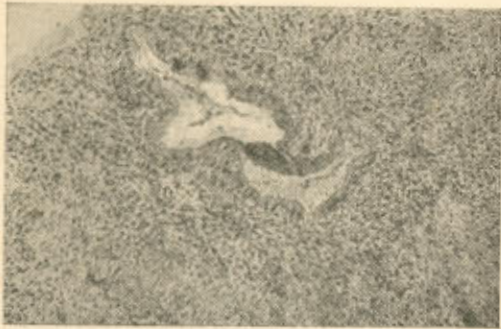


Fig. 6
Uterus six months after treatment.

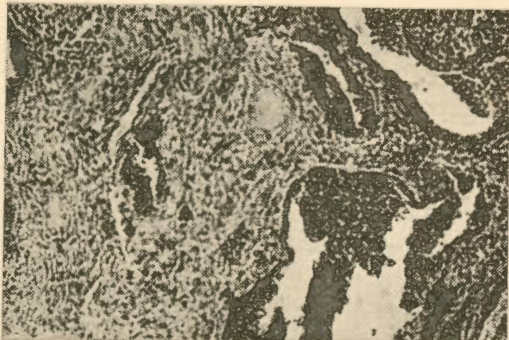


Fig. 7
Tubo-ovarian after 6 months showing lesions.

symptomless so far after operation. One patient showed positive tuberculous lesions even after six months of intensive drug therapy even though

the endometrium became negative after 3 months of treatment.

May I make a plea for more well-planned surgery not only to fill the gaps in our knowledge but to bring a ray of hope to these poor unfortunates!

Summary

1. The diagnosis of pelvic tuberculosis is still very difficult. No single sign or symptom is pathognomonic of the disease.

2. The causes of errors due to endometrial biopsy have been discussed.

3. The role of antibiotics in the treatment of pelvic tuberculosis has not been assessed completely.

4. The value of surgery in cases of advanced pelvic tuberculosis has been discussed.

5. Due to technical difficulties radical surgery is not possible in every case.

6. The number of cases is too few to draw any proper conclusions.

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