BILATERAL ACTINOMYCOSIS OF THE OVARIES

(A Case Report)

by

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Introduction

Zachary Cope (1939) in a comprehensive review stated that actinomycosis of the female pelvic organs was not uncommon. The first reported case was by Steward and Muir (1893), and further reports were published by Thompson (1907), and Taylor & Fisher (1909). Subsequently Loth (1956), Stevenson (1957), Sweeney & Blackwelder (1965) and Farrior & Rathbun (1969) reported actinomycosis of fallopian tubes and ovaries. MacCarthy (1955) reviewed a total of one hundred and fifty-seven cases from the literature. The case is being published because of its rarity and difficulty encountered in preoperative and postoperative diagnosis of the female genital actinomycosis. The point of additional interest was the history of an intrauterine loop insertion for about two years prior to the onset of complaints in this case.

CASE REPORT

A married woman aged 26 years, was first admitted to gynaecology department of the M.Y. Hospital, Indore on 26th May, 1970. She had three deliveries and all children were living. She had an intrauterine application of Lippes loop three years back, one and half months after her third delivery. Following two months of application of I.U.C.D., she had menorrhagia for which she was given treatment and menorrhagia was corrected. For the last one and a half years, she had been having irregular fever, varying from 100 to 102°F, for which she used to get symptomatic treatment. She developed loss of appetite and lost few pounds of weight. She also complained of congestive dysmenorrhoea and increased vaginal discharge for the past two months.

On clinical examination, she was emaciated and pale. Abdominal examination did not reveal any abnormality. On gynaecological examination, the uterus was mobile and of normal size. Both the fornices were clear. The cervix showed evidence of endocervicitis. As the thread of the loop was not visualized a plain x-ray of the abdomen was taken and the presence of the loop in the area of the uterus was detected. A dilatation and curettage with the removal of the loop was performed on 28th May, 1970 and the patient was discharged on 29th with the usual advice. The histopathological examination of the currettage revealed proliferative non-secretory endometrium.

She was readmitted on 16th June, 1970, as she developed a mass of about 6 cm. on the left side of the uterus. The cervical cytology revealed evidence of endocervi-

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citis. As her menstrual cycles continued to be menorrhagic, endometrial curettage was done which again revealed a proliferative endometrium.

On 10th July, 1970, the patient again attended the outpatients department with complaints of pain in the abdomen near umbilicus. There was an ill-defined mass of about 7 × 5 cm. in the abdominal wall below the umbilicus which was very tender. The mass appeared to have connection with the mass in the pelvis. There were no discharging sinuses.

Laboratory Investigations

Blood examination—haemoglobin 11 gm. per cent; total R.B.C. count—4 million per cu.mm.; total W.B.C.—8,732 per cu.mm. with polymorphs 68% and lymphocytes 32%. The urine examination did not show any abnormal findings.

Laparotomy was carried out on 13th July, 1970, under spinal anaesthesia. The mass in the abdominal wall had ill-defined margins, from which purulent material came out. This abscess in the abdominal wall was between the rectus sheath and muscles and at places it had penetrated the peritoneum also and was having connection with the matted lump in the abdomen which could be separated easily. Staphylococcus albus was grown from this material. On opening the abdomen caecum, sigmoid colon, omentum, uterus, tubes and ovaries were found to be matted together. On separating the adhesions, the left ovary was found to be enlarged to about 7 cm. in diameter and was inflammed. The fallopian tubes were swollen. The organs were very vascular. A panhysterectomy was performed. The postoperative period was smooth. The wound healing was quite good, except a small gap draining blood which stopped after 15 days.

Pathologic Findings

Gross Pathology: The uterus measured 8 × 4 × 4 cm. A small area of ulceration was present over the portio-vaginalis of the cervix. The endometrium, myometrium and fallopian tubes did not show any gross pathology. The right ovary was 3 × 3 × 1 cm. The cut surface showed two small irregular abscess cavities in the cortex filled with thick, yellow-coloured material. The left ovary measured 6 × 4 × 4 cm. The surface was nodular, rough and greyish-white in colour. The cut surface showed many intercommunicating abscess cavities of varying sizes filled with thick, yellow material. A thin rim of normal ovarian tissue was seen at the periphery (Fig. 1).

Microscopic Pathology: Both ovaries showed granulomatous lesions and multiple abscesses i.e. collection of polymorphonuclear leucocytes with central mass of ray fungus consisting of central mycelia and peripheral clubs (Fig. 2 & 3) and peripheral zone of lymphocytes and foamy macrophages. The Gram's staining of sections revealed ray fungus showing gram positive mycelia surrounded by a peripheral zone of large gram negative clubs. In sections stained by Zeihl Neelson's stain the clubs were acid fast and mycelia were non-acid fast. There was extensive fibroblastic proliferation around the abscesses. The endometrium was in the proliferative non-secretory phase. The cervix showed features of endocervicitis. Myometrium, parametrium and fallopian tubes did not show any significant pathology.

Treatment: The patient was given penicillin in doses of two mega units daily for 3 months.

Follow-up: The patient has been followed-up for one year. There is no temperature or pain or mass in lower abdomen. The patient is completely well.

Discussion

Bilateral actinomycosis of ovaries is common as compared to unilateral ovarian involvement. Primary actinomycosis of the female genital tract is rare and difficult to prove conclusively. A vaginal route of infection was described by Tietze (1930) in whose case infection seemed definitely to follow the use of a pessary. The significant clinical and pathological features of the present case strongly suggest the possibility of the primary bilateral actinomycosis of ovaries. The history

of instrumentation and application of intrauterine loop about two years ago and the bilateral involvement of ovaries suggests ascending route of infection through the fallopian tubes and subsequently settling of actinomyces on the ovaries. There was absence of any mycotic lesions in the intestine, caecum or colon to account for contiguous spread. The only difficulty is about explaining the passage of actinomyces against the direction of ciliary movements in the lumen of the fallopian tubes. In the case presented here, there is a possibility that the infection might have been acquired by the use of an intrauterine loop or use of contaminated instruments during loop application. The infection following abortion had been also suggested by cases reported by deFaria and Fialho (1937). The primary site of infection was thought to be the cervix in cases described by Jaffe (1937) and Campbell and Greaves (1939). Others like Draper & Studdiford (1926) and Neiman & Fahrner (1943) reported cases of actinomycosis and suggested that these cases had primary actinomycosis in the pelvis.

However, most cases of genital tract actinomycosis are considered to be secondary to intestinal infection, even though a lesion in the bowel is rarely demonstrated. It is thought that the fungus escapes to the tissue spaces or the peritoneum from a lesion in the bowel, either from appendicitis or a perforated duodenal ulcer or diverticulitis. The infection to the genital organs subsequently occurs by direct spread Stevenson (1957). The failure to demonstrate a macroscopic or microscopic lesion in the bowel has not been adequately explained. Brickner (1925) considered that the fungus could pass the intestinal wall without producing any lesion therein; while Blasek (1937) felt that the original lesion in the bowel might have healed by the time the pelvic genital disease became manifest, since the mucus membrane was known to be resistant to actinomyces. The disease might spread with the help of other organisms or it might spread by the blood stream (Paalman *et al*, 1949). However, it is significant to observe that there were no primary mycotic lesions to explain secondary genital actinomycosis in published cases.

The involvement of the female genital organs are the ovary, the ovary and the tube, the parametrium, the uterus, the vulva and the tube in that order of frequency (Daniel and Mavrodin, 1934). Of 109 cases in Paalman's (1949) series, 37.8% cases were confined to the right tube and the right ovary, 17.8% to left tube and the left ovary. In the remaining 44.4% the disease was bilateral. The uterus is rarely involved. In only 14 out of 157 cases the uterus was found to be involved MacCarthy, (1955). In cases reported by Nauhauser (1907) and MacCarthy (1955) there was specific involvement of the endometrium.

There is difficulty in preoperative and postoperative diagnosis of the female genital actinomycosis. Since fever, abdominal pain, loss of weight and anaemia are customary findings, the disease simulates pelvic inflammatory diseases due to other causes or malignancy. The correct diagnosis is only revealed by direct smear and culture of the material obtained at operation or on histological examination of the affected organ.

Antibiotics have considerably changed the outlook of this disease. Penicillin is effective in many cases of clinical actinomycosis, (Herrell, 1944; Nichols and Herrell, 1948; Walker and Hamilton, 1945; Sanford and Barnes, 1949; Putman *et al.*,

1950; and Armitage and Smith, 1954). A dose of two mega units daily for two months is recommended by Nichols and Herrell, (1948). A high dose of penicillin for a considerably long period is recommended by all to prevent recurrences. However, not all cases respond to penicillin and if improvement does not occur or fails to be mantained then an alternate antibiotic should be selected. The fungus is sensitive to five antibiotics, i.e. penicillin, tetracycline, chloramphenicol, oxytetracycline and streptomycin in that order (Garrod, 1952).

Surgery still plays an important role in the treatment of actinomycosis. Most authors agree with Brickner (1925) who laid stress on the need for complete excision of the diseased tissue wherever possible. Cope (1949) considers that the role of surgery is diminishing. In genital actinomycosis radical surgery still probably is necessary in many cases (Stevenson, 1957). It has been stressed that a careful follow up over a number of years is essential to pronounce a final cure.

Summary and Conclusions

A case of bilateral actinomycosis of the ovaries has been presented. There was a history of application of an intrauterine Lippes loop. The possibility of this case being a primary actinomycotic infection of the ovaries has been suggested.

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See Figs. on Art Paper VI