

SALMONELLA OVARIAN ABSCESS

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ABSTRACT

An infected endometriotic cyst by *Salmonella* gr.A was presented. The patient was a 26-year-old woman with fever and chill for three weeks. Ultrasonography showed an adnexal mass, containing turbid fluid.

INTRODUCTION

Salmonella abscess of the ovary is a rare condition. Localized infections frequently occur during *Salmonella* bacteremia but may also occur with enteric fever or gastroenteritis (1,2). Ovaries are one of the rare sites for such local infections. In isolated ovarian *Salmonella* abscess bacteremia is usually the initiating factor. *Salmonella* species possess a tendency to localize to sites of preexisting disease. Almost all reported cases of isolated ovarian abscesses had ovarian abnormalities such as a dermoid cyst, an endometrioma, a cystadenoma, or a simple cyst as the predisposing factor (3-5).

CASE REPORT

A 26-year-old female patient admitted to the hospital for a work up of the cause of fever with chill for 3 weeks. Physical examination revealed no abnormality. Her WBC was 9800; PMN 70%, L 16%, Mono 12%. The chest film, showed no pulmonary infiltration. The negative results were obtained from thick smear for Malaria, Widal test of Gr. A and B, heterophile, EBV titer, hemoculture and throat swab culture. The widal test for Gr. D was 1:20, and Typhoid H was 1:80.

Ultrasonography of the lower abdomen shows a fluid containing lesion, size 8.6 cm. in diameter at right adnexa. The fluid was turbid, evidenced by homogeneous high echo replacing the anechoic fluid. Operation was performed and the cyst was removed from right adnexa. Pathology and bacteriology revealed infected endometriotic cyst by *Salmonella* Gr. A.

DISCUSSION

The common clinical features of salmonellosis have been grouped into four clinical syndromes: gastroenteritis, bacteremia with or without extra intestinal localization, typhoid-like patterns and the carrier state (either convalescent or asymptomatic) (6,7). Localization of infection following bacteremia is reported to occur in 8% of blood stream infections (6,8) and the tendency of these infections to occur in injured or damaged tissues or in sites of malignancy (9-11). Patients with Hodgkin's lymphoma, acquired immunodeficiency syndrome and other diseases with T-cell defects are increased risk for severe infections with *salmonella* (12-14). *Salmonellae* can live intracellularly for long periods despite the presence of humoral antibodies and antibiotics. The main host

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defense mechanism in salmonellosis appears to be mediated by cellular immunity. The bactericidal mechanisms of the reticuloendothelial system, which serve to eradicate *S. typhimurium* from the liver and spleen of normal mice, are severely impaired in animals with hemolysis (15-17). Recurrence of salmonella infections in immunocompetent patients was rare, but infectious developing in individuals with depressed cell-mediated immunity are usually prone to recurrences (13,14). Infection occurring in the presence of prosthesis such as vascular grafts and artificial joints, as well as in deep-seated areas such as joints, aneurysms, prostate and testes, also have a high rate of recurrence (18). Salmonellosis in focal infections is often detected only after a diagnostic biopsy, laparotomy or other surgery. However, a suspicion of an unusual organism causing the focal infection can arise from either inadequate or even no clinical improvement following the use of seemingly appropriate antibiotics (6).



Fig.1 Ultrasonography of the pelvis showed a right adnexal lesion with well defined border, containing turbid fluid.

The most common type of purulent infection of the ovary is a tubo-ovarian abscess due to ovarian involvement secondary to acute salpingitis. This complication of acute salpingitis occurs in up to 34 percent of women admitted to

the hospital with salpingitis (19,20). In contrast, primary ovarian abscesses unrelated to tubal disease are very rare (21). Ovarian abscesses are thought to arise by three mechanisms. Organisms in the abdominal cavity gain access to the ovary when its surface is damaged during ovulation, at the time of operation, or through contiguous spread of inflammation. Organism may enter the ovary via the bloodstream or via lymphatics (21). The first mechanism is the most common; the majority of ovarian abscesses have been reported to occur after a pelvic operation. A number of examples have been reported in women wearing intrauterine contraceptive devices. These devices cause colonization of the female genital tract by bacteria, which then gain access to the peritoneum by spreading through the fallopian tube. Ovarian abscesses have been associated with appendicitis or diverticulitis in a very small number of cases (20,21). Mixed aerobic and anerobic bacteria are usually cultured with *E. coli*, *bacteroides fragilis*, and *streptococcus* the most common organisms isolated (21).

Infections of the ovary, presumably secondary to hematogenous or lymphatic spread of organisms, have been described in cases of salmonella infection, tuberculosis, and mumps. The patients with ovarian involvement generally present with symptoms of an ovarian abscess from several weeks to months after their initial salmonella illness, although intervals of up to 35 years have been reported (22). In contrast to ovarian abscesses that are associated with diverticulitis, in which the underlying ovary is usually normal, almost all the patients with salmonella ovarian abscesses have had infections in previously existing ovarian tumors, usually dermoid cysts or cystadenomas (23).

A wide variety of *Salmonella* species were isolated in the ovarian abscesses, including *S. typhi*, *S. enteritidis*, *S. paratyphi*, *S. typhimurium*, *S. virchow* (3-5) and *S. newport* (24).

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