

### BREAST ABSCESS DUE TO *SALMONELLA ENTERICA* SEROVAR TYPHI IN A YOUNG DIABETIC FEMALE

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#### Abstract

*Salmonella enterica* serovar Typhi (*S. Typhi*) is occasionally associated with abscess formation in various organs of the body. But breast abscess by *S. Typhi* without the general and specific symptoms of typhoid fever is unusual. We report a case of breast abscess due to *S. Typhi* in a 20 year old non-lactating diabetic female without the features of typhoid fever.

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**Key words:** *Salmonella Typhi*, breast abscess, asymptomatic typhoid fever.

#### Introduction

Typhoid fever is a common febrile illness in many developing countries of the world including Bangladesh. It is caused by *Salmonella enteric serovar Typhi* (*S. Typhi*) and *Paratyphi A, B and rarely C*. Extra-intestinal manifestations of typhoid fever such as abscess due to *Salmonella Typhi* are not common. Infection due to *S. Typhi* is occasionally associated with abscess formation in various organs namely pancreas, brain, liver, spleen, muscle and breast.<sup>1-6</sup> The abscess due to *S. Typhi* during typhoid is always associated with specific clinical features of enteric fever. But the presence of abscess without the general and specific symptoms of typhoid fever is unusual. We describe here a rare case of breast abscess without the presence of general and specific symptoms of typhoid fever in a young diabetic female.

#### Case Report

A 20 year old married non-lactating female was admitted to surgical ward on 12<sup>th</sup> May 2011 in BIRDEM General Hospital with a painful swelling of left breast for 12 days. On general examination, the patient was afebrile and her other vital parameters were stable. On local examination, there was a swelling (4x4 cm) in the left lower quadrant of the left breast which was

tender, mobile and not adherent to skin. The skin over the breast was erythematous and local temperature was raised. There was no discharge from the nipple and the areola was normal. The axillary lymph nodes were not palpable.

She gave a history of high grade fever and malaise one month prior to the appearance of the swelling in the breast and treated irregularly with various antibiotics by local doctors. There was no past history of any breast disease. She had no loose motions, constipation or urinary abnormality nor had she taken any vaccination against *S. Typhi*. She was diabetic (type-2) for last two years and on oral anti-diabetic agents with irregular follow up for blood glucose control.

The laboratory investigations showed: hemoglobin 12.1gm/dl, total leukocyte count  $14.7 \times 10^9$  cells/l with neutrophil 65%, lymphocytes 30%, eosinophil 05%. On admission her random blood sugar was 27.1mmol/l. Fine needle aspiration cytology (FNAC) of the breast lump was negative for malignancy and features were suggestive of abscess. Incision and drainage of pus under general anesthesia was done one day after the admission and pus was sent for bacteriological culture. Culture yielded pure growth of *S. Typhi* which was

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sensitive to ciprofloxacin, ceftriaxone, cefixime, ampicillin, cotrimoxazole and nalidixic acid but resistant to azithromycin. *S. Typhi* was identified by standard biochemical tests and specific antisera.<sup>7</sup> No other organism was isolated. The O and H agglutinin titers for *S. Typhi* were 1:80 and 1:320 respectively. The corresponding blood culture showed no growth of any organism. Based on the above findings, it was confirmed that the breast abscess was due to *S. Typhi*. The patient was treated with injection ceftriaxone 1g daily for 7 days followed by tablet cefixime 200 mg twice daily for another 7 days. Her blood sugar was controlled by insulin. On follow up after one month of discharge she was found asymptomatic and the abscess healed completely.

### Discussion

*S. Typhi* causes typhoid which is a multisystem disease with generalized manifestations. Among the known extra intestinal manifestations, breast abscess due to *S. Typhi* is rare. In a large study conducted in India on 6250 cases of salmonellosis, 0.016% cases had focal pyogenic infection with only one case of breast abscess.<sup>8</sup> Literature review revealed few published cases of breast abscess due to *S. Typhi*.<sup>9-14</sup> Unlike our case, all the reported breast abscess cases due to *S. Typhi* had general and specific features of enteric fever. But our patient presented with a swelling in her left breast without fever or any other features of enteric fever. But, after the isolation of *S. Typhi* from the pus, on further enquiry, the patient revealed that she had an acute episode of fever one month prior to the development of breast swelling. Therefore, it appears that she might have had an attack of typhoid fever and the organism got seeded in breast tissue during the bacteremic phase of the diseases. It became reactivated because of her uncontrolled glycemic status (blood sugar level 27mmol/l) and diabetes. There were two other case reports which described abscess in testis and psoas muscle due to *S. Paratyphi* and *S. Typhi* respectively without fever or any other specific features of typhoid fever.<sup>15,16</sup>

Therefore, our case shows that *S. Typhi* may cause pyogenic infection in any organ of the body and people with immunosuppressive disease like diabetes may suffer from such complication without any classical clinical features of typhoid.

### References

1. Garg P and Parashar S. Pancreatic abscess due to *Salmonella typhi*. *Postgrad Med J* 1992; **68**: 294-295.
2. Hanel RA, Araújo JC, Antoniuk A *et al*. Multiple brain abscesses caused by *Salmonella typhi*: case report. *Surg Neurol* 2000; **53**: 86-90.
3. Kabra S and Wadhwa V. Hepatic abscess caused by *Salmonella typhi*. *Indian Ped* 2006; **43**: 81-82.
4. Naranje KM, Devidayal, Sodhi KS and Singh M. Multiple splenic abscesses caused by *Salmonella typhi* in a child: case report and brief literature review. *J Ped Scien* 2011; **3**: e113.
5. Thakur K, Singh G, Gupta P, Chauhan S and Jaryal SC. Primary anterior parietal wall abscess due to *Salmonella Typhi*. *Braz J Infect Dis* 2010; **14**: 328-329.
6. Singh S, Pandya Y, Rathod J and Trivedi S. Bilateral breast abscess: A rare complication of enteric fever. *Indian J Med Microbiol* 2009; **27**: 69-70.
7. Colle JG, Miles RS and Watt B. Tests for the identification of bacteria. In: Mackie & Mc Cartney Practical Medical Microbiology, 14<sup>th</sup> edn. Newyork. Charchill Livingstone Inc; 1996; 131-149.
8. Lalitha MK and John R. Unusual manifestations of salmonellosis: A surgical problem. *Quarter J Med* 1994; **87**: 301-309.
9. Delori M, Abgueguen P, Chennebault JM, Pichard E and Fanello S. Breast abscess with *Salmonella typhi* and review of the literature. *J Gynecol Obstet Reprod* 2007; **36**: 709-12.
10. Viswanathan R, Shah AH, Nagori LF and Gupta MK. *Salmonella typhi* in breast abscess. *Bombay Hospit J* 2003; **45**: 452.
11. Jayakumar K, Appalaraju B and Govindan VK. An atypical presentation of *Salmonella typhi*- a case report. *Indian J Med Microbiol* 2003; **21**: 211-212.
12. Mahajan RK, Duggal S, Chande DS *et al*. *Salmonella enterica* serotype Typhi from a case of breast abscess. *J Commun Dis* 2007; **39**: 201-4.
13. Barrett GS and Macdermot J. Breast abscess: A rare presentation of typhoid. *Br Med J* 1972; **2**: 628-9.
14. Salahuddin U, Tambawala A and Salahuddin N. Breast abscess and acute cholangitis: Two rare manifestations of *Salmonella typhi* in the same patient. *Infect Dis J Pakistan* 2008; **17**: 27-29.
15. Nawaz G, Rehman A, Muhammad S *et al*. Testicular abscess caused by *Salmonella paratyphi*. *J Ayub Med Coll Abbottabad* 2011; **23**: 153-154.
16. Shakespeare WA, Davie D, Tonnerre C *et al*. Nalidixic acid resistant *Salmonella enterica* Serotype Typhi presenting as a primary psoas abscess: Case report and review of the literature. *J Clin Microbiol* 2005; **43**: 996-998.