Painful facial swelling

Wednesday, 01 June 2005

A 58-year-old man was admitted to the hospital complaining of a 3-day history of fever, malaise and a painful swelling of the right parotid gland. For 2 days before his admission, he had been taking amoxicillin and metronidazole, as the swelling was thought to be related to dental infection, by his general practitioner. His medical history was unremarkable. The patient did not suffer from any immune or endocrine disease and has not taken any other medication in the past. He did not mention any history of diarrhea, vomiting, abdominal pain, joint pain or joint swelling. He was living in Athens suburbs, working as a civil servant.

As the symptoms seemed to persist, the patient was referred to our Hospital's ENT department for evaluation. At physical examination, a firm mass was palpable at the right parotid, and the patient was admitted for further investigation. No evidence of palpable regional lymph nodes was noted and no other clinical findings could be revealed. The chest X-ray showed no abnormalities. His white blood count was 9,250/mm3 (69.7% neutrophils, 17.2% lymphocytes, and 6.8% monocytes), haematocrit 48.5%, haemoglobin level 16.1 g/dl, platelet count 267,000/mm3, C - reactive protein 8.3 mg/dl (normal values up to 0.5 mg/dl) and erythrocyte sedimentation rate 70 mmHg/1st hour. A CT scan of the face was performed (Figure).

What is your diagnosis?

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Diagnosis

A CT scan revealed an abscess of the right parotid, with no evidence of malignancy (Figure). The patient underwent fine-needle aspiration of the abscess, under U/S guidance, and the pus aspirated was sent to our microbiological laboratory for culture. After 24-hour incubation, Salmonella enterica serogroup enteritidis was isolated from the sample. The stool, urine and blood cultures were negative. The patient was treated with ciprofloxacin 400 mg po every 12h for 10 days, with complete remission of symptoms. He was discharged from the hospital 15 days later after complete resolution of the infection.

Teaching points

- Non-typhoidal Salmonellae comprise more than 2,000 serovars among which Salmonella typhimurium, S. enteritidis, S. heidelberg, S. hadar, S. newport, S. agona, S. montevideo, S. poona. S. javiana, S. thomson are the most prevalent (1). They are found in a wide range of animal hosts, especially poultry, and can be transmitted by food, mainly meat and eggs and their products. Among them S. enteritidis is the major egg-associated pathogen and is frequently associated with ice cream consumption (2,3). Non-typhoidal Salmonellae produce clinical symptoms mainly in neonates, infants, aged and immunocompromised patients.
- About 5% of persons infected with non-typhoidal Salmonellae are estimated to become bacteremic after invasion of the bacteria through the intestinal mucosa. In immunocompromised hosts bacteremia may occur in up to 80%. Focal extra-intestinal infections from non-typhoidal Salmonellae have increased in incidence during the past two decades. They can manifest as urinary tract infections, heart or arterial infections, osteomyelitis, bacterial arthritis, soft tissue infections or meningitis frequently complications of bacteremia or enteric fever (14).
- Soft tissue infections due to non-typhoidal Salmonellae occur mostly in patients with chronic underlying conditions and immune deficiency. Cancer, diabetes mellitus, human immunodeficiency virus infection, and drug-induced immunosuppression are the most common predisposing conditions for systemic salmonella infections.
- In immunocompetent patients, Salmonella enteritidis is the most frequent strain associated with extra-intestinal

infections. Salmonella infections in otherwise healthy individuals are mostly food born, or due to direct contact with infected animals, but there is evidence of household contamination as well. The severity and the outcome of a systemic Salmonella infection depend on the "virulence" of the bacteria, on the infectious dose as well as on the genetic makeup and immunological status of the host (15).

References

1. Rabsch W., Tshaepe H., Baeumler A Non-typhoidal salmonellosis: emerging problems. Microbes and Infection 2001; 3: 237-247
2. Ray J., Shotton J., Lobo V. A rare case of Salmonella neck abscess. J. Laryngol. Otol. 1997; 11(5): 489-90
3. Mastroeni P. Immunity to systemic Salmonella infections. Current Molecular Medicine 2002; 2: 393-406

Acknowledgements

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