

# An 11-Year-Old Patient with Cervical Lymphadenitis Caused by Group B Streptococci

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## Abstract

Colonizing the gastrointestinal and genitourinary system, group B streptococcus (GBS) causes focal and systemic infections in infants in the first 3 months of life and in pregnant women and elderly people. GBS, less frequently, emerges as an infectious agent among children and adults with facilitating factors, like immunosuppression, malignancy, immune deficiency, and chronic liver and kidney failure. In this article, an 11-year-old child with cervical lymphadenitis due to GBS who had no concomitant disease or immunosuppression is presented.

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**Key words:** Child, group B streptococcus, cervical lymphadenitis

## Introduction

Streptococcus agalactiae known as group B streptococci (GBS) may colonize in the gastrointestinal system, genitourinary system and rarely in the pharynx, and may cause bacteremia, endometria, amnionitis and urinary system infections in women. It is the most common cause of perinatal infections in infants from birth until three months. In the first three months, they are frequently presented with disseminated infection or meningitis (1). Focal infections such as osteomyelitis, septic arthritis, pneumonia, adenitis, and cellulite are less common. Even though group B streptococci infections are rarely common in infants over three months, we may encounter mostly the presence of an accompanying predisposing factor in different age groups. It may cause systemic infections in adults and the elderly with an underlying medical condition such as diabetes mellitus (DM), chronic liver or kidney disease, malignancy and immunosuppression (1-3). In our article, an 11-year-old case who was admitted for cervical swelling and who later had *S. agalactiae* reproduction in abscess drainage was especially presented in order to

emphasize that the same agent might be encountered in different age groups.

## Case Report

An 11-year-old male patient was admitted to our hospital with the complaint of a cervical swelling. In his history, we learnt that the cervical swelling complaint started ten days ago and he was initially diagnosed to have mumps by his first examination by a physician. Due to the rise in the swelling on the left side of the neck, the patient transferred from another centre and hospitalized with the diagnosis of cervical lymphadenitis. We were informed that the patient who did not have any peculiarity in her background or family history live in the rural region and his family earned their living via stockbreeding. In the physical examination, it was found that body weight was 37 kg (25-50p), height 145 cm (50p), peak heart rate 110/min, blood pressure 100/60 mmHg, and body temperature 37.7°C. In the submandibular region on the left, there was 3x4 cm sized painful swelling on which there was redness, rising temperature and fluctuation. Oropharynx examination was normal and there

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was no tooth decay. There was no pathology in the examination of other systems. The following laboratory results were obtained; hemoglobin 11 g/dL, white blood cell count 11,950/mm<sup>3</sup>, thrombocyte count 462,000/mm<sup>3</sup>, erythrocyte sedimentation rate 75 mm/hour and C-reactive protein 37 mg/L. Biochemistry results were normal. By the abscess drainage of the patient, a purulent material emerged. In the direct microscopy, complete leukocyte emerged; and in the gram stained microscopy, gram positive (+) cocci seen. The patient was given cefotaxime and metronidazole. No positivity was found in the tests regarding tularemia and tuberculosis and tuberculin skin test was negative. In the exudate culture, on the other hand, group B Beta hemolytic streptococcus (*S. agalactiae*) isolated. Since *S. agalactiae*-related abscess development in this age group is rare, the patient has been tested for immunodeficiency. It was found that immunoglobulins were normal and nitroblue tetrazolium test (NBT) negative. The patient did not have fever, the swelling receded, and his treatment was discontinued on the eighth day; oral amoxicillin clavulanic acid treatment was continued and completed in two weeks. Physical examination in the polyclinic follow-up was completely normal.

## Discussion

Nearly one third of males and females carry GBS in their intestine systems and one fourth of females in their vaginas. GBS rarely colonizes in the pharynx as well (1). As it does not generate any symptoms, it is difficult to detect GBS carriage (4). High colonization in pregnant women may cause premature birth, premature rupture of membrane, low birthweight infants and neonatal diseases (5).

Group B streptococci (GBS) disease incidence in adults has been increasingly growing (6). Jackson et al. (7) found in their study that GBS infection incidence in adults was 0.15 per 100,000. Adults and elderly with an underlying DM, autoimmune disease, immunosuppression, hepatocirrhosis, cardiovascular disease and malignancy are in the risk group for GBS infections (8). In their study in which Domingo et al. (3) examined twelve GBS-meningitis cases, they revealed that more than 58% of the cases were over the age of 50. Invasive GBS disease is common in HIV-positive cases as well (9).

There is limited number of studies regarding GBS infection in infants over 3 months old (10). In their eight-year-long retrospective study, Hussain et al. (10) found 143 patients with GBS reproduction. It was reported that only 18 (13%) of the cases were aged 3 months and 18 years, and half of these cases were aged between 15 weeks and 12 months. GBS meningitis was found in three patients aged 12-18 and with various operation histories

for cerebrospinal fluid (SBF) drainage. Similarly, it was reported that a 9-year-old patient with ventriculoperitoneal shunt was diagnosed with GBS meningitis (11).

Group B streptococci (GBS) was also revealed as the agent of cellulitis (12). In four cases they studies, Sickler et al. reported that as they received steroid treatment for nephrotic syndrome, cellulite developed in the left bottom part of the abdomen, and GBS reproduction was found in the blood culture. The cellulite table improved with the ampicillin treatment. Although renal failure is known to be a predisposing factor for GBS infection, only two cases of 4 and 12 year-old patients with nephrotic syndrome diagnosis and GBS peritonitis development were reported in the literature (12, 14).

Group B streptococci (GBS) infection was rarely reported in infants over 3 months old who did not have any previous disease or immunosuppression. Managoli et al. (15) reported GBS meningitis in a 5-year-old male patient who was admitted with the complaints of fever and seizures, whose meninx irritation results were positive, and who did not have any rashes and was previously healthy. Perotti et al. (16) found *S. agalactiae*-related septic arthritis in a 6-month-old female infant who did not have an underlying disease.

No pediatric patient of GBS-related cervical lymphadenitis case has been encountered in the literature. GBS isolated in the abscess drainage material in our case who had complaints of swelling on the neck for ten days. The test results of the patient who did not have a previously known disease and immunosuppressive drug use did not reveal immunodeficiency either. GBS is a pathogen that is mainly common in animals. It may cause mastitis in cows. The term "*agalactiae*" which stands for non-existence of milk implies this (2). When the patient's history was dug up, we learnt that family of our case was involved in cattle farming and the family could not get any milk from the cattle because of mastitis. As far our case was concerned, we were of the opinion that our case might have contracted the agent as a result of close contact with the animals.

## Conclusion

In conclusion, the case in question has been presented to emphasize the fact that group B streptococci that may cause invasive infections in infants in their first three months, in pregnant women and adults and the elderly with predisposing factors may confront us through various infections in healthy children older than 3 months as well.

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**Informed Consent:** Written informed consent was not obtained from patient who participated in this case as the patient is not under any consideration at that moment.

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