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### ***Group B Streptococcal* urinary tract infection- Amuch neglected and underestimated threat**

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**Abstract**

*Streptococcus agalactiae* or Group B *Streptococci* (GBS) is a Gram-positive coccus which is usually seen as normal commensal of gastrointestinal and reproductive tract of healthy individuals. *Streptococcus agalactiae* is a very rare cause of urinary tract infection (UTI) especially in males. UTI due to GBS has been reported in patients with Diabetes Mellitus (DM) and renal failure. The various manifestations of UTI are asymptomatic bacteriuria, cystitis, urethritis, pyelonephritis and urosepsis. Accurate diagnosis and treatment of the GBS infection can prevent the development of serious complications in adults.

**Keywords:** *Streptococcus agalactiae*, Group B *Streptococci*, GBS, Urinary tract infection, UTI, asymptomatic bacteriuria, cystitis.

Article History

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**Introduction:**

*Streptococcus agalactiae* or Group B *Streptococci* (GBS) is a Gram-positive coccus which is usually seen as normal commensal of gastrointestinal and reproductive tract of healthy individuals. 30% of healthy females act as carriers with GBS as a part of their normal vaginal flora (Patras KA, 2018). GBS is associated with certain diseases in high-risk individuals like new-borns & adults with Diabetes mellitus (DM), heart disease, congestive heart failure, cancer and obesity. The clinical manifestations of GBS are neonatal sepsis and meningitis in new born (Heath PT, 2014). In adults, it is associated with skin and soft tissue infections, pneumonia, endocarditis and urinary tract infections (UTI) (Chaiwarith R, 2011).

*Streptococcus agalactiae* is a very rare cause of UTI especially in males (Munoz P, 1992). UTI due to GBS has been reported in patients with DM and renal failure. The various manifestations of UTI are asymptomatic bacteriuria, cystitis, urethritis, pyelonephritis and urosepsis (Swain B 2017, Glen CUlett, 2010). We intend to publish this case report in context of rarity of *Streptococcus agalactiae* as a cause of urinary tract infection.

**Case presentation:**

A 50-year-old male patient presented with C/O burning micturition with increased frequency and urgency for 5 days. O/E, patient was afebrile, conscious with no other significant findings.

**Materials & Methods:****Blood investigations:**

His blood investigations revealed the following abnormal findings: Random blood glucose- 436 mg/dl, HbA1C- 9.8, ESR- 45mm at 1 hour, VLDL-136 mg/dl and triglyceride levels- 680 mg/dl. The other blood parameters were within normal limits.

**Microbiological investigation:**

Midstream urine sample collected from the patient was subjected to culture & sensitivity. Direct gram stain of the uncentrifuged urine sample showed few pus cells and few gram-positive cocci. MacConkey agar showed  $>10^5$  CFU/ml of tiny pinpoint lactose fermenting colonies. The colony gram stain revealed gram positive cocci in chains which was catalase positive and bile esculin negative.

**Results:**

The isolate was identified by VITEK 2 ID/AST system as *Streptococcus agalactiae* with 98% probability. The AST was performed by Kirby-Bauer disc diffusion as per CLSI guidelines (CLSI 2019).

**Management & Outcome:**

The patient was treated based on the AST report and was completely cured from his symptoms. The repeat culture done after 2 weeks of treatment showed no growth.

**Discussion:**

GBS is a very rare cause of infection in adults especially in males. It is a very rare cause of Urinary tract infection (Munoz P, 1992 & Ulett KB, 2009). The Diabetes mellitus would be the risk factor for infection in our patient. Accurate diagnosis and treatment of the GBS infection can prevent the development of serious complications in adults.

**Conclusion:**

This case report is presented to highlight the significance of Group B Streptococci as causative agent of urinary tract infections especially in diabetic individuals. Group B Streptococci is often a neglected cause of UTI, most of the isolates being reported as Enterococci species. Exact species level identification is an essential diagnostic stewardship measure which helps the clinicians to implement antimicrobial stewardship, as Group B Streptococci are sensitive to first line antibiotics like penicillin/ ampicillin.

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