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RESEARCH ARTICLE

A CASE REPORT OF SPONTANEOUS BACTERIAL PERITONITIS AND CAUSATIVE AGENTS

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Abstract

Case Findings: A 55yr male patient presented with complaints of pain abdomen, vomiting, constipation, & weight loss.
Aim And Objectives: To isolate the causative agent, empiric therapy and antibiogram.
Methods: Ascitic fluid was sent for grams stain & culture sensitivity. The fluid was centrifuged and the sediment used for making grams stain & processed according to the standard protocols
Result: The organism was identified as *Enterococcus faecalis* and antibiogram obtained which was sensitive to Quinolones.
Conclusion: There is an increasing prevalence of enterococcal spontaneous bacterial peritonitis associated with poor prognosis due to multidrug resistance when inappropriately treated. So, the clinicians should consider empirical treatment with anti-enterococcal antibiotics.

Introduction:-

Spontaneous bacterial peritonitis is an acute bacterial infection of the ascitic fluid causing peritonitis .It is exclusively seen in cases of cirrhosis resulting in portal hypertension and in cases of nephrotic syndrome.The most common causative organisms being the members of Enterobacteriaceae and anaerobes.Gram positive cocci of species streptococci and staphylococci are also responsible which account for less than 25% of cases of which enterococci the gut commensal accounts for less than 4 % ,but the incidence of such cases has been increasing due to their pro inflammatory role and bacterial synergy with other organisms.

Enterococci are catalase negative, gram-positive cocci in chains. Initially grouped under group D Streptococcus, they are reclassified later as a separate genus Enterococcus under a family; Enterococcaceae. Enterococcus faecalis and Enterococcus faecium are the two most common species involved in infections which are the normal flora of the human gastrointestinal tract and female genitourinary tract.Transmission frequently occurs when endogenous strains gain access to sterile sites. Person-to-person transmission, directly or by contaminated medical equipment, allows nosocomial spread and colonization with multi-drug resistant strains.

Case Findings

A 55yr male patient presented with complaints of pain abdomen, vomiting, constipation, & weight loss. He is a known alcoholic&smoker; on examination he had deep tenderness in right hypochondriac, right lumbar, right and left iliac fossa regions. Ultrasound abdomen showed edematous bowel loops with mild free fluid.

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Aim And Objectives: -

To isolate the causative agent of the present case.
To know the role of empiric therapy and antibiogram.
To look for the presence of other causative agents

Methods:-

Ascetic fluid was sent for Gram's stain &Culture sensitivity.
The fluid was centrifuged and the sediment was used for making wet mount,Gram's stain &Inoculated on Blood Agar, Mc Conkey Agar and SDAfor Culture

Fig 1:-

Fig:1Wet mount showed plenty of pus cells along with gram positive cocci in pairs and short chains. And absence of gram-negative bacteria and fungal elements

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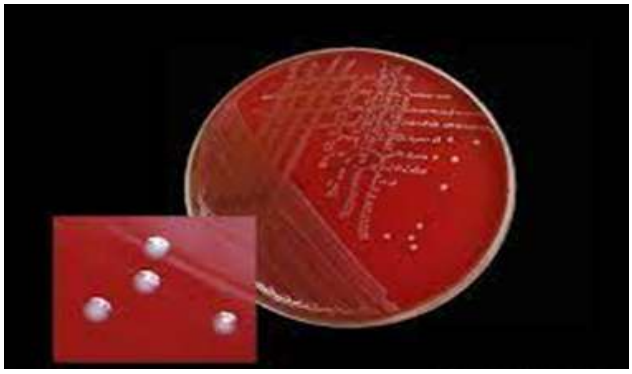

Fig 2:-

Fig:2 Blood agar plate showed 1-2mm circular nonhemolytic colonies with entire edges. There was no growth on McConkey Agar and SDA plates.

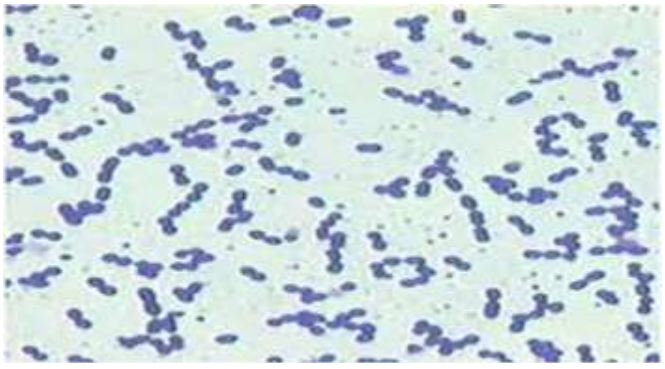

Fig 3:-

Fig:3 Grams stain from colony showed gram positive cocci arranged in singles, pairs, and chains, which are ovoid to coccobacillary in shape

Fig 4:-
Fig:4 The colony was inoculated on bile Esculin agar which turned positive.

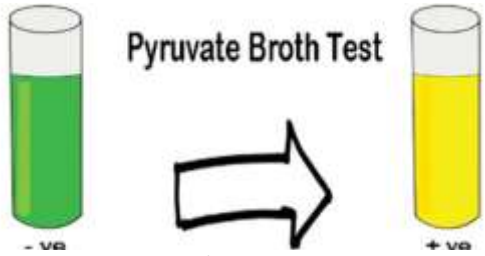

Fig 5:-
Fig:5 Pyruvate fermentation test

Species identification was done by pyruvate fermentation test which was positive confirming the species as *Enterococcus faecalis*.

The result also correlated with automated VITEK2 system along with the antibiogram.

The antibiogram showed resistance to cephalosporins and cotrimoxazole penicillins, and sulfonamides sensitive to vancomycin, linezolid, high level gentamicin, ciprofloxacin, levofloxacin.

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Result:-

The organism was identified as *Enterococcusfaecalis* and antibiogram obtained which was sensitive to Quinolones. The patient responded when the treatment was changed to ciprofloxacin.

Conclusion:-

Recently due to increasing isolation of enterococcus in ascitic fluid which are usually considered as commensals, should be given importance. enterococcal spontaneous bacterial peritonitis associated with poor prognosis due to multidrug resistance when inappropriately treated.

Enterococci show intrinsic resistance to cephalosporins and cotrimoxazole. Most strains of enterococci are resistant to penicillins, aminoglycosides, and sulfonamides. Resistance is overcome by combination therapy with penicillin (or ampicillin) and aminoglycoside such as gentamicin (due to synergistic effect) and this remains the standard therapy for life-threatening enterococcal infections. Aminoglycoside alone is ineffective because it cannot penetrate. Penicillin or vancomycin weakens the cell wall, allowing the aminoglycoside to penetrate. Vancomycin is usually indicated in resistant cases but resistance to vancomycin has also been reported. Linezolid can be used to treat vancomycin-resistant enterococci (VRE). So, the clinicians should consider empirical treatment with anti enterococcal antibiotics in combination.

Referances:-

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