

Microorganisms Isolated From Diabetic Foot Ulcer – And It's Sensitivity To Our Empirical Antibiotics

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INTRODUCTION:

Ampicillin/Sulbactam is the most common empirical therapy for diabetic foot ulcer (DFU). We reviewed the practicality behind this practice.

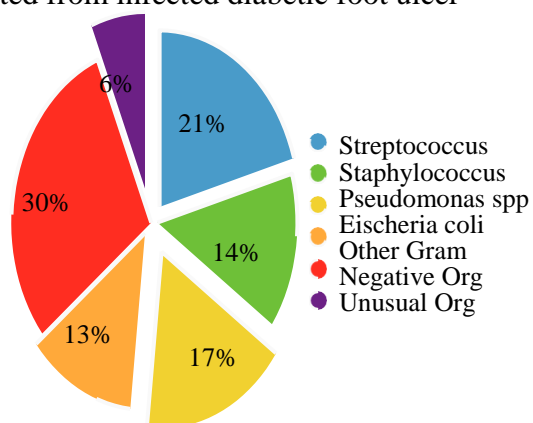
METHODS:

We reviewed 145 diabetic foot ulcer patients who underwent wound debridement, from January till August 2017. 84 patients (57.9 %) were males and 61(42.1%) were females. Culture were collected in operation theatre under aseptic technique. Culture and sensitivity were identified according to the standard microbiological procedures.

RESULTS:

Out of the 145 patients, 134 had positive cultures, where 40 (29.8 %) cultured gram positive, 68 (50.7%) gram negative and 26 (5.4 %) mixed growth. Most commonly cultured organism was Streptococcus 23 (20.5%), followed by Pseudomonas 19 (16.9%), Staphylococcus 16 (14.2%) and Eischeria coli 14 (12.5%) There were some unusual cultures (6.25%) as well, namely; Morganella Morganni and Panteoa agglomerans.

Pie Chart 1: Types of bacteria species isolated from infected diabetic foot ulcer



DISCUSSIONS:

Our review is in keeping with previous reviews on DFU whereby gram negative are more commonly cultured than gram positive organisms. The fact that most gram positive organism (68%) were sensitive to penicillin group and significant number of gram negative (E. Coli- 78%) sensitive to second generation cephalosporin justifies the usage of ampicillin/sulbactam as an empirical therapy. None of the Pseudomonas spp. in our setting were sensitive to 2nd generation cephalosporin. It's challenging to decide on the best empirical therapy on initial presentation. Our local practice is to initiate more aggressive 3rd generation cephalosporin (Ceftazidime) in septic patients assuming the infection is due to Pseudomonas spp. We also notice only 8% of the organisms were in the resistance group, namely ESCAPMM, ESBL, MRSA.

CONCLUSION:

Diabetic foot ulcer takes a significant toll in our health care system. Thus, it is important for us to hit the bull' eye in diabetic foot treatment to reduce the morbidity of this disease. The current suggestion of using ampicillin/sulbactam empirically is supported in our series. We suggest 3rd line cephalosporin as empirical treatment in selected cases.

REFERENCES:

1. Medical treatment of Diabetic Foot Infections Benjamin A Lipstky Clinical Infectious Diseases, Volume 39, Issue Supplement _2, 1 Aug 2004, Pages S104-S114
2. Prof Dr Peter R Cavanagh, Georgeanne Botek : Treatment for diabetic foot ulcer, volume 336, Issue 9498, 12-18 Nov 2005, Pages 1725-1735