Microbiological characteristics of dermatological patients with ulcers of the lower extremities

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The aim of the study

- Treatment of ulcers of the lower extremities is challenging and complicated by many aspects. One of them is a wide variation of pathogenic bacteria, which worsens the course of the disease.
- The aim of this study was to determine and evaluate microbiological pattern of patients with lower extremities ulcers, treated in the Department of Dermatovenereology during 5 years period.

Coherence between repeated hospitalisation and bacterial profile of the ulcers

Tendency of leg ulcer treatment in Vilnius University Santaros Clinics Dermatovenereology department

There was found significant correlation between use of systemic treatment and high CRP level ($p=0,002$).

Materials and Methods

- A retrospective 5-year period analysis of total 429 patients clinical and medical documentation data was performed.
- Data of patients demographics, anamnesis of the disease, physical, laboratory and instrumental examinations was analyzed.
- Statistical analysis was carried out using SPSS 22.0 software. (SPSS Inc., Chicago, USA). The results are expressed as mean $\pm$ standard error of the mean (SEM).
- A value of $p<0.05$ was considered statistically significant.

Bacteria distribution according to patients age

St. β-haemolyticus C gr. (GCS) is inherent to younger patients group 21-40 ($p=0,002$).
E. faecalis is inherent to elderly patients groups: 61-80, 80-100 years old ($p<0,001$).

Mostly used and at least effective antibiotics

There was found significant correlation between infection of *S. coagulase* (-) and use of fluoroquinolones in 3 months anamnesis $p<0,001$.

Demographic data

Bacterial profile specifics of leg ulcers in patients with diabetes

Patients with diabetes had a significant correlation with growth of *M. morganii* ($p<0,001$), *B. fragilis* ($p=0,001$), *S. marcescens* ($p=0,002$).

Tendency of bacteria resistance to antibiotics during 2010 - 2015 years period

Most common bacteria cultivated from swab tests

Bacterial profile specifics of leg ulcers in drug addicted patients

Bacteria associated with drug addiction:
St. β-haemolyticus C gr. ($p<0,001$) ir *St. β-haemolyticus G gr.* ($p=0,001$)

Conclusions

- Ulcers of the lower extremities remains a chronic health care problem, which is often complicated by secondary infectious disease.
- From culture of leg ulcers most frequently growing bacteria are: *St. aureus*, *Ps. aeruginosa* and *E. faecalis*.
- A significant correlation between repeatedly treated patients and detection of *Ps. aeruginosa* and *S. marcescens*, as well as within patients with diabetes and growth of *M. morganii*, *B. fragilis* and *S. marcescens* has been determined.
- E. faecalis* is more common in elderly patients.
- Abundant usage of antibiotics in treatment of lower extremities ulcers increases rise and spread-out of resistant pathogenic microorganisms. Thus, the antibacterial treatment should be selected with caution.