SYMPOSIUM CONCLUSIONS

CONCLUSIVE NOTES ON BIOFILM AND ANTIMICROBIAL DRESSINGS

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The scientific symposium entitled *The Role of Biofilm in the Treatment of Chronic Ulcer,* organized by the Croatian Academy of Medical Sciences with support from Stoma Medical has demonstrated its educational role. This issue of *Acta Medica Croatica* (AMC) brings current concepts on chronic venous disease (CVD), which should be acquired by physicians of various specialties, e.g., dermatovenereologists, microbiologists, plastic surgeons, family physicians, and others. In industrialized countries, 1%-2% of the population suffer from CVD in lifetime (1,2). In Great Britain, health care cost for chronic wound treatment amounts to 2.3-3.1 billion pounds *per year* (3). Therefore, this Symposium also has a pharmacoeconomic role. The following concepts have been extracted from the papers presented at the Symposium:

1. Chronic ulcer (CU) should be approached according to the etiologic, anatomic and pathophysiological classification of the American Venous Forum (AVF) and clinical classification (CEAP). The bacteria present in the wound favor the already existing chronic inflammatory reaction, thus stimulating the release of enzymes, destroying proteins and reactive metabolites of oxygen compounds, as well as the tissue, increasing the exudate and capillary permeability; all this leads to pain, further maceration, and eventually ulceration. The presence of microbes stimulates and sustains further tissue damage. Uncontrolled exudate and chronic inflammation with time lead to further aggravation of chronic ulcer, which greatly increases the cost of treatment. Recent research of the microorganisms present in the wound has highlighted the existence of biofilm as the cause of ulcer non-healing (1).
2. The diagnosis of CU should be based on the history, physical status and laboratory work-up including microbiology, biochemistry, histopathology, radiology, oxymetry and ankle index (ABPI) (4-6).
3. Use of the protocol according to Metcalf, Bowler and Hurlow, *A clinical algorithm for wound biofilm identification,* presented in the whole with the authors' permit, is necessary (5).
4. Prevention and treatment of CVD is nowadays available to all patients, from systemic pharmacotherapy, compressive therapy (short-elastic and long-elastic bandages, compressive stockings), physical medicine and electrical stimulation (6). Yet, the earlier the diagnosis is made, the better is the prognosis and reduction in the number of CU patients.
5. Destruction and prevention of biofilm re-formation, along with acting upon the exudate and infection, are the advantages achieved by the efficient action of antimicrobial dressings with silver ions and disinfectants (7-11).
6. The latest technology of antimicrobial dressings with silver and disinfectants has proved useful in clinical trials *in vitro* and *in vivo* (11). In the USA, it is estimated that 17 million people per year are affected with chronic infections caused by biofilm, entailing a cost of approximately 94 billion USD (1); therefore, significant pharmacoeconomic cost effectiveness of this new technology dressings will certainly be reported in the near future.
7. In the 21st century, CVD poses a major public health problem that considerably reduces the quality of life of not only elderly patients (12). Thus, the use of the latest generation antimicrobial dressings should be quickly introduced. These are optimal dressings because they regulate local obstacles in the wound management, e.g., excessive exudate, infection and biofilm, by providing protection of the wound and adjacent skin, thus favoring wound healing.
8. This thematic AMC issue on chronic ulcer contributes to continuous medical education, which is the task of the Croatian Academy of Medical Sciences.

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