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LETTER

Multifunctional Irrigation-Assisted Vacuum Drainage versus Traditional Drainage in the Treatment of Odontogenic Deep Fascial Infection: A Retrospective Cohort Study [Letter]

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Dear editor

Recently, He et al[1] released a paper in the Infection and Drug Resistance, entitled "Multifunctional Irrigation-Assisted Vacuum Drainage versus Traditional Drainage in the Treatment of Odontogenic Deep Fascial Infection: A Retrospective Cohort Study." The results mentioned in the original paper[1] are inaccurate, since the authors did not take into account the warm alkaline solutions of hydrogen peroxide, which allowed the authors to belittle the effectiveness of pharmacotherapy of purulent wounds. In essence, the article by He et al[1] is devoted to proving the advantages of the modified multifunctional vacuum drainage with irrigation support (MIVD) developed by them in the treatment of patients with odontogenic infection of the deep fascial space in the head and neck area. They noted that the current traditional drainage method is passive and depends on gravity. However, the authors did not investigate the possibility of a geyser effect of warm alkaline solutions of hydrogen peroxide, which easily and cheaply provide the dissolution of thick pus and its removal during drainage, regardless of gravity. The authors take into account antibiotics, but do not take into account antiseptic solutions, and also do not take into account such physical-chemical properties of drugs as temperature, concentration, osmotic, acid (alkaline) and gas-forming activity.

Then there are questions: 1) Is it true that a solution of hydrogen peroxide is not used for drainage? 2) How does the temperature of the hydrogen peroxide solution affect the efficiency of traditional drainage? 3) Can hydrogen peroxide solutions be alkaline, and how do they affect the effectiveness of traditional technology for washing purulent wounds? 4) Is it possible to additionally enrich solutions of hydrogen peroxide with gas and how does this affect the effectiveness of the traditional technology of washing purulent wounds?

Firstly, in the conditions of purulent surgery departments, solutions of both chemotherapeutic and antiseptic agents are widely used for drainage of purulent wounds. Of the antiseptics, the most common use is solutions of 3–6% hydrogen peroxide.

Secondly, heating the hydrogen peroxide solution to +37–+45 °C increases its effect on thick pus and increases the efficiency of drainage.[2,3]

Third, hydrogen peroxide solutions can be alkaline. To do this, sodium bicarbonate is added to the solutions, which provides a pH of 8.4. The effect of the

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hydrogen peroxide solution on pus at a pH of 8.4 is higher than at a pH of 7.0 and below this value. So an alkaline solution of hydrogen peroxide increases the effectiveness of the traditional technology of washing purulent wounds.[4]

And, finally, warm alkaline solutions of hydrogen peroxide can be additionally enriched with gas, for example, oxygen gas. To do this, gases are introduced into solutions under excessive pressure. The enrichment of a warm alkaline solution of hydrogen peroxide with oxygen gas turns it into a powerful bleaching cleaner, which is recommended as the most powerful and effective hygiene product that has no equal today.[4,5]

Therefore, it is necessary to conduct additional research to prove the undeniable advantages of MIVD.

Disclosure

The author reports no conflicts of interest related to this communication.

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