We read with great interest the paper by Godbole and colleagues about the use of gentamicin-collagen sponges in the closure of sternal wounds in cardiac surgery to reduce wound infections [1]. In the results of their research, they have included preliminary conclusions from a controlled, prospective, randomized, double-blind, single-centre study [2]. Recently, the results of this investigation were fully published [3]. In order to be exhaustive, we have summarized the relevant results of the above-mentioned study.

In this monocentric study, which was conducted in Germany, the gentamicin-collagen sponge group (n = 353) showed a significantly (p = 0.014) reduced risk of deep sternal wound infection as compared to the control group (n = 367) — that is, 0.56% and 3.52% at 30 days, respectively. The two types of sponges were implanted retrosternally without premoistening and could not be differentiated by the surgical team. There were no statistically significant differences between the two groups in terms of secondary end points such as superficial sternal wound infection, postoperative bleeding or transfusion of red cell units. The design of this surgical study has met the criteria of the Oxford Centre for Evidence-based Medicine for evidence grade 1b, which is the highest quality rating for an individual study in this field. Therefore, in discussing the clinical implications of their findings, the authors have suggested that routine prophylactic retrosternal placement of gentamicin-releasing sponge reduced the incidence of deep sternal wound infection.

Anterior mediastinitis is reported to occur in 0.4 to 4% of median sternotomies [4] and this particularly grave infection is still responsible for significant mortality and morbidity. Many factors responsible for poststernotomy mediastinitis have been suggested and these have been classified as preoperative, intraoperative and postoperative factors. Every effort to reduce the incidence of poststernotomy mediastinitis is valuable. The implementation of this simple measure could bring particular benefits to high-risk patients.

Future studies with larger numbers of patients and a longer follow-up will be required to validate the efficacy of the implantation of gentamicin-collagen sponge retrosternally and to develop evidence-based recommendations of highest statistical certainty.

Conflict of Interest: None declared

References


