

# Correction of large surgical defects: double cerclage technique

## Correção de defeitos cirúrgicos grandes: técnica da dupla cerclagem

### ABSTRACT

Large surgical wounds can be closed using flaps or grafts, which are often difficult to carry out. The double cerclage technique is an effective option for direct – though partial – closure of this type of incision. The technique will be demonstrated using an illustrative case.

**Keywords:** *bloodless medical and surgical procedures; surgical procedures, minor; skin neoplasms; carcinoma, basal cell.*

### RESUMO

*Feridas cirúrgicas de grandes dimensões requerem fechamento através de retalhos ou enxertos, muitas vezes de difícil execução. A técnica da dupla cerclagem constitui alternativa eficaz para o fechamento direto, mesmo que parcial, desse tipo de defeito. Demonstraremos caso ilustrativo da técnica.*

**Palavras-chave:** *Procedimentos médicos e cirúrgicos de sangue; procedimentos cirúrgicos menores; neoplasias cutâneas; carcinoma basocelular.*

### INTRODUCTION

The cerclage technique (or tracheloplasty or pocket suture), dating to the beginning of the 1950s, was originally used following excisions of epidermal cysts in the malar region.<sup>1</sup> The technique has since been widely used in the post-operative reconstruction of surgical wounds resulting from skin cancer.<sup>2</sup> The cerclage technique is used in the complete or partial closure of large circular surgical defects located in regions where direct closure or the use of grafts and flaps could be difficult.

For better results it is important that the adjacent skin presents good mobility, allowing an adequate approximation of the borders, such as on the chest, thighs, and arms.<sup>3,4</sup> The cerclage technique has the advantage of evenly distributing the tension on the border of the wound, allowing maximum advance of the skin with minimized distortion of surrounding structures.

#### Case

A 34-year-old male patient underwent a surgical exeresis of a 8.0 x 7.0 cm diameter basal cell carcinoma on the chest. After local anesthesia with tumescent solution, the exeresis was

## New techniques

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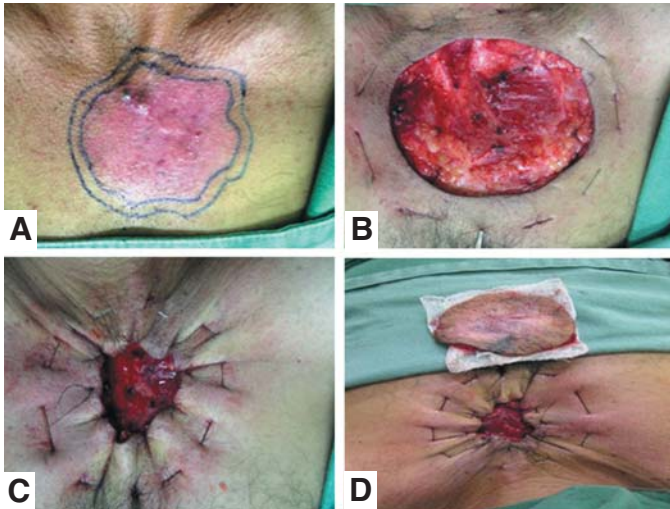
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**Figure 1:** (A) Extensive tumor on the chest. (B) Circular defect after tumor exeresis and delineation of the suture in pocket. (C) Defect reduction after first cerclage. (D) A second suture in pocket is carried out.



**Figure 2:** Final result 3 weeks after the procedure, after healing of the smaller defect by second intention

conducted with 5 mm margins. The closure of the resulting large circular defect was carried out using the double cerclage technique, which is described below.

Following the detachment of the wound's border and appropriate hemostasis, the first circular pocket was executed 3cm from the wound's border with mononylon 3.0 sutures. This first pocket reduced the wound's diameter to approximately one-third of its original size. Next, a second suture in pocket was carried out 0.5 cm from the wound's border, resulting in an even smaller defect (around one-fourth or less than the initial defect). (Figure 1) The resulting defect healed by second intention, leaving a scar with a satisfactory appearance. (Figure 2)

## DISCUSSION

The correction of large surgical defects involves technical difficulties. Of the possible surgical alternatives in this case, all were less favorable than the cerclage technique. The elliptical excision method, for instance, would have resulted in a scar that was approximately 3 times larger.

Another alternative was a graft, which in addition to requiring a donor area and presenting a risk of necrosis, would have produced an inferior aesthetic result. In addition, the graft would have been difficult to carry out due to the size of the pedicle needed to irrigate such a large area.

The cerclage method allows the maximum approximation between opposite borders, resulting in a wound with a smaller diameter that is expected to heal by second intention. After the cerclage, it is sometimes possible to close the remaining defect directly. In addition to allowing the direct closure of large diameter wounds, this technique also results in an aesthetically satisfactory appearance; good elasticity of the skin is an important contributing factor.

## CONCLUSION

Cerclage was proven an effective technique for the correction of extensive surgical wounds. It was practicable using local anesthesia and yielded a satisfactory aesthetic appearance. The case described illustrates a valuable tool for dermatologic surgeons. ●

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