FULL-THICKNESS SKIN GRAFTING OF ORAL DEFECTS: ENHANCING GRAFT STABILITY WITH INTRAMURAL QUILTING SUTURES

ENXERTO DE PELE TOTAL PARA DEFEITOS ORAIS: MELHORAR A ESTABILIDADE DO ENXERTO COM SUTURAS "QUILTING" INTRAMURAIS

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ABSTRACT

Introduction: Full-thickness skin grafts (FTSGs) are vital in reconstructive surgery, especially for challenging oral cavity defects. Secure fixation is essential to prevent displacement and ensure integration with the recipient site. Traditional methods often fail in the oral environment due to moisture, movement, and bacteria. This study introduces a novel modification using intramural quilting sutures to enhance FTSG stability in oral mucosal reconstruction. **Technique:** After preparing the graft by trimming underlying structures, simple interrupted sutures secure it. The key innovation is transmural quilting sutures that anchor the graft from inside the oral cavity, creating an inside-outside loop configuration. A gauze interface prevents pressure necrosis. **Conclusion:** Intramural quilting sutures improve the stability and success of FTSGs in oral mucosal defects, leading to better outcomes and faster recovery.

Keywords: *full-thickness skin graft, oral mucosal reconstruction, intramural quilting suture.*

RESUMO

Introdução: Os enxertos de pele de espessura total (FTSGs) são essenciais na cirurgia reconstrutiva, especialmente para defeitos desafiantes na cavidade oral. Nos enxertos, a fixação segura é crucial para evitar deslocamentos e garantir a sua integração no local recetor. Os métodos tradicionais frequentemente falham no contexto oral devido a um ambiente propício à humidade, movimento e bactérias. Este método apresenta uma nova modificação utilizando suturas tipo "quilting" intramurais para melhorar a estabilidade dos FTSGs na reconstrução da mucosa oral. **Técnica:** Após a preparação do enxerto através da remoção das estruturas subjacentes, são utilizadas suturas simples interrompidas para fixar o enxerto. A inovação chave são as suturas tipo "quilting" transmural que ancoram o enxerto dentro da

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cavidade oral, criando uma configuração de laço dentro-fora na pele. A utilização de uma interface de gaze no sítio do laço previne a necrose por pressão. **Conclusão:** As suturas tipo "quilting" intramurais melhoram a estabilidade e o sucesso dos FTSGs em defeitos da mucosa oral, levando a melhores resultados e recuperação mais rápida.

Palavras-chave: *enxerto de pele total, reconstrução da mucosa oral, sutura tipo "quilting" intramurais.*

INTRODUCTION

Full-thickness skin grafts (FTSGs) are essential in reconstructive surgery, especially in the oral cavity where tissue defects can be particularly challenging to address. The success of grafting procedures heavily relies on the secure fixation of the graft, preventing displacement, and hematoma formation and ensuring its integration with the recipient site[1]. Traditional methods employ tie-over bolster dressings and quilting sutures, but in oral surgeries, these techniques are often inadequate due to the constant exposure to moisture, movement, and bacteria. McGregor first described an innovative technique in 1975, adding multiple anchoring sutures for a tongue graft [2,3]. In this article, we introduce an original modification involving intramural quilting sutures to enhance the stability and success rate of FTSGs in oral mucosal reconstruction.

TECHNIQUE

The first step in the modified technique involves careful graft preparation. After harvesting, the graft is meticulously trimmed to remove underlying adipose and hair structures, ensuring optimal graft quality. Simple interrupted sutures are used to secure the graft, and the donor site is closed in layers to promote proper wound healing.

The key innovation lies in the placement of transmural quilting sutures. These sutures are introduced from the inside of the oral cavity, passing through all layers of the tissue, and then re-entering the oral cavity from the outside. This creates a secure loop on the exterior of the graft, effectively anchoring it to the recipient site. The knots are tied inside the oral cavity, forming an inside-outside loop configuration (Figure 2-3). To prevent pressure-related skin necrosis, a gauze interface is strategically placed between the loop suture and the skin.

This technique allows the graft to be left in place, with the sutures naturally reabsorbed over time, promoting better tissue integration and minimizing the risk of complications. The final result is shown in Figure 4.

Fig 1. – **Preoperative defect**

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Fig. 2a and b – **Securing the skin graft with transmural sutures. The first needle pass should be from inside, then outside and then coming back inside forming an outside loop. The knots are tied inside the mouth and the loops are outside. It's important to note the placement of a gauze interface protecting the skin from pressure.**

Fig 3. – **Showing an intra-oral view. The know is placed inside the oral cavity, securing the graft as a quilting suture.**

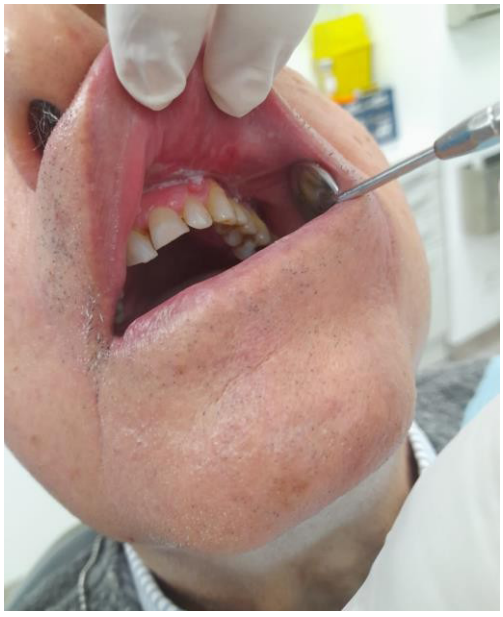

Fig 4. – **After 2 months, showing good graft take.**

CONCLUSION

The application of intramural quilting sutures in FTSGs for oral mucosal defects provides a simple yet effective solution for securing intraoral grafts. Ensuring the graft remains as stable as possible in the oral mucosa, this method enhances the overall success of oral mucosal grafting procedures, offering patients improved outcomes and faster recovery.

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