Editorial



Primary References for the Gingival Graft Procedure: A Note of Clarification

Primary in the dynamic evolution of periodontal plastic surgery was the rediscovery of the free gingival graft in the early 1960s. The chronology of events suggests independent discovery and presentation of the gingival graft procedure to the profession by Dr Hilding Björn in Sweden and Drs Kenneth King and Billy Pennel in the United States.¹

During the literature search in preparation for publication of King and Pennel's free graft series,¹ we found substantial inaccuracy within the published record. It was evident, for instance, that most descriptions in the literature of Björn's seminal 1963 publication did not accurately reflect his contribution. The purpose of this editorial is to clarify Björn's and others' contributions to the gingival graft literature. Because of the recent emphasis on connective tissue grafting, recent graduates may find additional benefit from this review.

We use the term "rediscovery" because the earliest known reference to the gingival graft procedure is a detailed report by Dr Davenport of Dr Younger's presentation on the subject to the American Dental Club of Paris in 1902.^{2,3} We mention this early report for historical interest, and now will focus on events comprising its rediscovery.

The first modern reference to the gingival graft procedure is universally attributed to Hilding Björn in 1963. We were surprised to find that this reference was not a case report or technique article, as generally portrayed,⁴⁻⁶ but rather an abstract of a slide presentation on the gingival graft procedure that may be found in two similar reports in 1963.^{7,8} Initially, one of these reports⁸ was most difficult to locate because the volume number was erroneous in the information we provided the librarian. The significance of this error will become apparent as we proceed.

Björn's report appears initially in issue 3 of a quarterly publication in English,⁷ and subsequently in the November issue of a monthly publication in Swedish.⁸ The report in English should be considered primary if date of publication is the determining factor. Both reports list items (abstracts) comprising a symposium in periodontology hosted by H. Björn himself (Fig 1). Ironically, this first reference appears last in a series of 22 spare notations:

Björn, Hilding: Free transplantation of gingiva propria. "Cases where periodontal disease had resulted in loss of attached gingiva were treated by means of free autografts of attached gingival tissue. Despite the difficulty of obtaining thin grafts, the major part of the transplants did take" (as published).

Symposium in periodontology in Malmö

On invitation of med dr Hilding Björn, professor of oral surgery, the first internordic symposium in periodontology was held at the Royal Dental School in Malmö 9th—10th May 1963.

The symposium was visited by research workers and specialists in periodontology from the five Scandinavian countries. The program comprised the following items.

WAERHAUG, JENS: Adhesion of cells.

A review of the modern experimentally based concepts concerning the adhesion of cells to solid substrata.

THLANDER, HOLDER: Effect of locally applied enzymes on structure of gingival pocket epithelium.

Fig 1 First page of the primary Björn report published in English during the third quarter of 1963 introducing the symposium and list of abstracts. Björn's abstract was the last item.

The second report of the symposium in Malmö was published in the Swedish equivalent of our *Journal of the American Dental Association*. Björn's expanded 12-line abstract adds detail, noting a color slide presentation in which he reports encouraging preliminary results using free autologous transplantation of gingiva propria to restore areas where progressive periodontitis has resulted in alveolar mucosa functioning as marginal tissue.

Often attributed to Björn, credit for the first case report belongs to John M. "Jack" Nabers in 1966.⁹ In the bibliography, Nabers refers to the King and Pennel lecture to the Philadelphia Society of Periodontology in April 1964. King was the presenter, and his slide presentation is believed to mark the first appearance of the gingival graft procedure in the United States. Dr Claude Nabers, Jack's brother, attended King's presentation, and after returning to their periodontal practice in Texas, relayed the information to his brother, who subsequently wrote this first case report.

As evidenced by the processing dates imprinted on the original slides, King and Pennel accomplished their first free graft in September 1962, months before Björn presented his preliminary results to colleagues in May 1963. Therefore, Björn, King, and Pennel appear to be co-contributors in the rediscovery of the gingival graft procedure.¹

Nabers published a second paper on the subject in 1966.¹⁰ This companion paper contains the first citation of Björn's 1963 publication in the American dental literature. Nabers lists this reference last.¹¹ However, Nabers neither notes nor refers to Björn's work in the text of the article; the other references are noted and discussed in the text.

Nabers used a somewhat unique notation of the reference in Swedish.¹¹ In an apparent transcriptional error, he recorded volume 22 rather than the correct volume, 55. Initially, the librarian had difficulty finding this reference, since we had submitted volume 22 with the request. The librarian subsequently discovered our error, identified the correct volume (55), and located the reference.

This transcriptional error, often accompanied by other attributes of Nabers' original citation, has been perpetuated to this day¹² in most related bibliographies. The following quotations from the literature are a few examples of citations characterizing Björn's contribution, also using the incorrect volume 22:

"Björn's (1963) transplantation of the gingiva demonstrated the value of grafts to periodontal therapy."¹³

"In Sweden, Björn published the first successful free gingival graft supported by photographic illustrations."⁴

"A number of pedicle and free graft techniques as treatment modalities for gingival extension have been described in the literature."⁵

Descriptions like these and our experience with the reference containing this error strongly suggest that few have read the original Björn publication.

Key references and early contributions to the gingival graft literature have been identified and clarified. It is tempting to speculate that Nabers came upon the Björn reference in Swedish shortly before publication, noted the inherent difficulties of procurement and translation, and decided to insert it for completeness without reviewing the original article. Others have followed suit.

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References

- Allen AL, Cohen DW. King and Pennel's free graft series: A defining moment revisited. Compend Contin Educ Dent 2003; 24:698–706.
- Davenport IB. The American Dental Club of Paris. Meetings of December 1902 and January and March 1903. Dent Cosmos 1904;46:39–46.
- Baer PN, Benjamin SD. Gingival grafts: A historical note. J Periodontol 1981;52: 206–207.
- Hall WB. Gingival augmentation/mucogingival surgery. Free gingival graft/autogenous gingival graft. In: Proceedings of the World Workshop in Clinical Periodontics. Chicago: American Academy of Periodontology, 1989:VII–5.
- 5. Wennström JL. Mucogingival therapy. Ann Periodontol 1996;1:671–701.
- Camargo PM, Melnick PR, Kenney EB. The use of free gingival grafts for aesthetic purposes. Periodontol 2000 2001;27: 72–96.
- Björn H. Free transplantation of gingiva propria [abstract]. In: Symposium in periodontology in Malmö. Odontologisk Revy 1963;14:321–323.
- Björn H. Fri transplantation av gingiva propria [abstract]. In: Symposium i parodontologi. Sveriges Tandlaekarefoerbunds Tidning 1963;55:676–684.
- Nabers JM. Extension of the vestibular fornix utilizing a gingival graft—A case report. Periodontics 1966;4:77–79.
- 10. Nabers JM. Free gingival grafts. Periodontics 1966;4:243-245.
- Björn H. Free transplantation of gingiva propria. Sveriges Tandläkarforbunds Tidning 22: 684, Nov. 1963 (as cited).
- Takei HE, Scheyer ET, Azzi RR, Allen EP, Han TJ. Periodontal plastic and esthetic surgery. In: Newman MG, Takei HH, Klokkevold PR, Carranza FA (eds). Carranza's Clinical Periodontology, ed 11. St Louis: Elsevier/Saunders, 2012:1–5. http://www.expertconsultbook.com. Accessed 4 November 2011.
- Sullivan HC, Atkins JH. Free autogenous gingival grafts. I. Principles of successful grafting. Periodontics 1968;6:121–129.