

Letters to the Editor

Keratocystic odontogenic tumour (KCOT) has again been renamed odontogenic keratocyst (OKC)

In the recent World Health Organization classification of tumours of the head and neck¹, the name keratocystic odontogenic tumour (KCOT) has been changed again to odontogenic keratocyst (OKC). This decision has caused some confusion and has undoubtedly lessened alertness regarding this potentially very aggressive lesion. Apart from the known tendency of OKCs to recur, their potential aggressiveness has been well documented by Emerson et al.², who described the extension of two recurrent OKCs in the mediastinum, extended via the neck. Worrall and Abé et al.⁴ reported OKCs penetrating into the temporalis muscle, while Makaria et al.⁵ and Yamamoto et al.⁶ found the same in the masseter muscle. Liu et al.⁷ described a recurring OKC in an autogenous lyophilized bone graft, with extension into the masseter muscle. It is clear that extension into the soft tissues makes it very hard to remove this lesion in one piece. There will be a considerable risk of leaving some cells behind; thus, recurrences are almost unavoidable. Jackson et al.⁸, Franc et al.⁹, and Soost et al.¹⁰ have described the extension of an OKC into the base of the skull. The potential danger of this phenomenon does not require further elaboration.

The presence of clusters of epithelial cell nests, also called basal cell hamartias¹¹, in a high percentage of OKCs, often accompanied by microcysts in the mucosa overlying the OKC, has been unequivocally proven by Stoelinga et al.^{12–15}. Over the last 50 years, numerous studies have been reported that show the high tendency for OKCs to recur after surgical treatment,

be it marsupialization with or without secondary enucleation, enucleation with or without additional treatment, or even segmental resections. Five case reports have been published showing recurrent OKCs in a bone graft^{7,16–19}. The latter phenomenon almost proves that the source of some of these newly developing cysts is located in the mucosa covering the area where the OKC has been removed.

In light of the facts stated above, the decision to change the name back to OKC seems somewhat strange, denying its behaviour as a benign but aggressive tumour.

Funding

No funding.

Competing interests

None.

Ethical approval

Not required.

Patient consent

Not applicable.

P. J.W. Stoelinga

Department of Oral and Maxillofacial Surgery, Radboud University, Nijmegen, the Netherlands

E-mail address: p.stoelinga@hetnet.nl
(P.J.W. Stoelinga)

References

1. Speight P, Devilliers P, Li TJ, Odell EW, Wright JM. Odontogenic keratocyst. In: El-Naggar AK, Chan JK, Grandis JR, Takata T, Slootweg PJ, editors. *World Health Organi-*

zation classification of head and neck tumours. Fourth edition. Lyon: IARC; 2017. p. 235–6.

2. Emerson TG, Whitlock RI, Jones JH. Involvement of soft tissue by odontogenic keratocysts (primordial cysts). *Br J Oral Surg* 1972;9:181–5.
3. Worrall SF. Recurrent odontogenic keratocyst within the temporalis muscle. *Br J Oral Surg* 1992;30:59–62.
4. Abé T, Maruyama S, Yamazaki M, Essa A, Babkair H, Mikami T, Shingaki S, Kobayashi T, Hayashi T, Cheng J, Saku T. Intramuscular keratocyst as a soft tissue counterpart of keratocystic odontogenic tumor: differential diagnosis by immunohistochemistry. *Hum Pathol* 2014;45:110–8.
5. Makaria S, Bayle RM, Muniswamappa S, Narasimhamurthy S. Large extragnathic keratocystic odontogenic tumour. *Case Rep Pathol* 2015. <http://dx.doi.org/10.1155/2015/723010>. Epub 2015 Dec 6.
6. Yamamoto K, Matsusue Y, Kurihara M, Takahashi Y, Kirita T. A keratocyst in the buccal mucosa with the features of keratocystic odontogenic tumor. *Open Dent J* 2013;13:152–6.
7. Liu B, Cai Y, Wang SP, Zhao YF. Recurrent keratocystic odontogenic tumor in the masseter muscle overlying the bony perforations: a case report. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2012;113:1–5.
8. Jackson IT, Potparic Z, Fasching M, Schievink WI, Tidstrom K, Hussain K. Penetration of the skull base by a dissecting keratocyst. *J Craniomaxillofac Surg* 1993;21:319–25.
9. Franc C, Cresseaux P, Richard L, Breton P, Freidel M. The keratocyst or epidermoid cyst: the current state of understanding apropos of a case with intracranial involvement. *Rev Stomatol Chir Maxillofac* 1996;97:270–82.
10. Soost F, Stoll C, Gerhardt O, Neumann HJ. Keratocysts of the jaws with an expansion to the skull base. *Zentralbl Neurochir* 1999;60:11–4.
11. Shear M, Speight PM. *Cysts of the oral and maxillofacial regions*. Fourth edition. Blackwell Munksgaard; 2006.

12. Stoelinga PJ, Peters JH. A note on the origin of keratocysts of the jaws. *Int J Oral Surg* 1973;2:37–44.
13. Voorsmit RA, Stoelinga PJ, van Haelst JG. The management of keratocysts. *J Maxillofac Surg* 1981;9:228–36.
14. Stoelinga PJ. Long-term follow-up on keratocysts treated according to a defined protocol. *Int J Oral Maxillofac Surg* 2001;30:14–25.
15. Stoelinga PJ. Excision of the overlying, attached mucosa, in conjunction with cyst enucleation and treatment of the bony defect with Carnoy solution. *Oral Maxillofac Surg Clin North Am* 2003;15:407–14.
16. Schofield JJ. Unusual recurrence of odontogenic keratocyst. *Br Dent J* 1972;130:487–9.
17. Persson G. Remarkable recurrence of a keratocyst in a bone graft. *Int J Oral Surg* 1973;2:69–76.
18. Attenborough NR. Recurrence of an odontogenic keratocyst in a bone graft. *Br J Oral Surg* 1974;12:33–9.
19. DeGould MD, Goldberg JS. Recurrence of an odontogenic keratocyst in a bone graft: report of a case. *Int J Oral Maxillofac Surg* 1991;20:9–11.

<https://doi.org/10.1016/j.ijom.2018.07.020>

Re: “Comparison between flapless and open-flap implant placement: a systematic review and meta-analysis”

We read with great interest the article “Comparison between flapless and open-flap implant placement: a systematic review and meta-analysis” by Lemos et al., published in the April 2018 edition of the journal¹. The review aimed to assess the difference between two techniques of implant placement using data extracted from several studies. However it appears that there may have been some inaccuracy in the data extraction.

The data extracted from the studies included had a direct influence on the forest plots and the Discussion section. The authors stated that two of them mainly worked on the data collection process. However, there are some errors in Table 2: (1) For the study by Bomicke et al. (2017), the authors noted an implant survival rate of 19/19 (100%) in the flap group; however the article by Bomicke et al. states: “3 participants lost to follow-up in 3-year follow-up and 16 participants were analyzed in two-piece implants group”. (2) For the study by Cannizzaro et al. (2011), the authors noted that the mean (standard deviation (SD))

marginal bone loss was 0.43 (0.40) in the flap group and 0.38 (0.42) in the flapless group; however the table in the article by Cannizzaro et al. shows that the data mentioned in the review were used to evaluate the marginal bone level rather than bone loss, and the mean (SD) of marginal bone loss was 0.33 (0.50) in the flap group and 0.24 (0.29) in the flapless group. (3) For the study by Van de Velde et al. (2010), the authors noted that the mean (SD) of marginal bone loss was 1.93 (0.42) in the flap group and 1.95 (0.7) in the flapless group; however the table in the article by Van de Velde et al. shows that the data mentioned in the review were used to evaluate the marginal bone level rather than bone loss at the 18-month follow-up, and the mean (SD) marginal bone loss was 0.77 (0.39) in the flap group and 1 (0.58) in the flapless group.

The implant survival rate and marginal bone loss outcomes are important when making decisions regarding the choice of surgical method for implant placement. A meta-analysis is required to be rigorous, and this review with data errors could mislead readers or change opinion on non-conventional methods.

To conclude, the comparison of a variety of surgical methods using an ethical design is needed. Those methods associated with low success rates, multiple complications, etc., will cease to be used, and ultimately the methods of choice will have benefits for both the clinician and the patient.

Funding

Self-funded.

Competing interests

The authors declare no conflicts of interest.

Ethical approval

Not required.

Patient consent

Not required.

K. Geng
L. Wu
Q. Gao*

Department of Prosthodontics, Xiangya Hospital, Central South University, Changsha, China

*Address: Qingping Gao, Department of Prosthodontics, Xiangya Hospital, Central South University, Changsha City, Hunan

Province, 410008, China.
E-mail address: dentgao@163.com
(L. Wu)

Reference

1. Lemos CAA, Verri FR, Cruz RS, Gomes JML, Dos Santos DM, Goiato MC, Pellizzer EP. Comparison between flapless and open-flap implant placement: a systematic review and meta-analysis. *Int J Oral Maxillofac Surg* 2018;18(Apr):30132-2. <http://dx.doi.org/10.1016/j.ijom.2018.04.002>. pii: S0901-5027. [Epub ahead of print].

<https://doi.org/10.1016/j.ijom.2018.07.021>

Response to the Letter to the Editor on “Comparison between flapless and open-flap implant placement: a systematic review and meta-analysis”

Thank you for giving us the opportunity to reply to the Letter to the Editor in response to our manuscript “Comparison between flapless and open-flap implant placement: a systematic review and meta-analysis”¹. We would like thank the authors of the letter for the time taken and care with which they verified the data tabulated in this work. However, the claims made are refuted in the points described below.

All tabulated data were obtained from the selected studies. We opted to consider the initial data about the patients because not all studies were clear regarding drop-outs and/or withdrawals. For the study of Bomicke et al.², we tabulated the data for the patients initially recruited (19 patients, without considering the three patients who dropped out). However, we performed the analysis again taking into consideration the dropouts for the all selected studies that reported this information and found that this minor fact was not relevant to the final analysis as stated by the authors of the letter. Thus, there remained no significant difference in implant survival rate between flapless and open-flap surgery (Fig. 1).

Regarding the marginal bone loss outcome, both studies highlighted by the authors of the letter reported the data tabulated in our manuscript^{3,4}. For these studies we considered the final value of the bone level reported by the authors. The data reported by the letter refer to the difference between the baseline value and that obtained at the last available follow-up. Thus, we performed the analy-