Corseting' and strangling'—two techniques sharing similar concepts to treat large venous malformations in the head and neck region

We congratulate Colletti et al. for introducing the 'strangling technique' in a preliminary report of two cases in the journal Head & Neck in October 2014[1]. Although it shares a similar approach with the 'corset technique' in terms of the concept and the exposure of the lesion, it is very different from the corset technique[2]. The term itself talks about a difference in collapsing the lesion using locked vertical mattress sutures. The following narrative clearly explains the differences between the two techniques.

In October 2014, Colletti et al. presented case reports showing the use of the strangling technique in two patients. We followed up a series of 90 patients who underwent corset suturing from 1999 to 2017. These patients were categorized into different groups as reported in the article by Nair et al. published in 2011[3].

Colletti et al. describe the use of non-resorbable sutures involving the most superficial part of the venous malformation pexing into the underlying periosteum. The corset technique does not involve pexing the periosteum but only the bulk of the lesion. The suture used is PDS (polydioxanone). The advantage of PDS is that its tensile strength lasts for over 2 weeks and it undergoes resorption within 180 days. This allows sufficient time for internal thrombosis and fibrosis.

Colletti et al. use a technique of exposing the facial nerve from its exit through the stylomastoid foramen and its branches using an anterograde approach, which is not advocated in the corset technique. Dissecting around the nerve itself could cause a transient nerve palsy.

Many of our patients underwent surgical de-bulking once the reduction in size of these large venous malformations had been achieved using the corset technique.

In our recent paper on corseting, we presented the cases of 90 patients, 63 of whom were followed up over a period of 18 years; 25 had a minimum follow-up of 5 years and only two patients were lost to follow-up.

Below are our responses to the pointers for discussion introduced by Colletti et al., in sequence.

- Most patients in our study underwent a CT/MRI/ultrasound scan preoperatively. These were not presented in the paper, as the lesions were clinically impressive enough to justify the use of the corset technique.
- It is agreed that MRI is the gold standard to diagnose and treat soft tissue venous malformations. However, our earliest cases were seen in 1999, a time when the availability of MRI in our country was limited. Furthermore, the added costs involved in MRI were prohibitive for many of our patients who have a low economic background. The above explains the use of a preoperative CT scan over MRI in this group of patients.
- We are in agreement that the term haemangioma should have been omitted to avoid confusion. Mention of haemangioma was thought to be relevant in select cases of low-flow venous malformations underlying residual haemangiomas, which were excised as a part of skin de-bulking during corseting.
- Venous malformations being complex in nature may present with a small arterial component although being mostly venous. There was no attempt made to isolate the arterial component and the lesions were corseted as a whole.
- The corset technique advocates suturing in a vertical looping fashion with polydioxanone sutures to incorporate the bulk of the lesion. The facial nerve was obviously avoided when visible, to minimize the chances of facial palsy. The vertical looping caused collapse of the transverse vascular channels, hence providing maximum benefit from this technique. Seven patients reported transient nerve palsy, which was reversed due to the resorbable nature of the sutures used.
- Many of our cases underwent surgical excision of the residual collapsed lesion to achieve a near total clearance and further minimize the chance of recurrence. The use of non-resorbable sutures poses the risk of leaving behind a source of infection and suture track formation. As mentioned previously, we advocate the use of polydioxanone sutures, which allow about 6 weeks for the lesion to collapse and enable further de-bulking as necessary.

Based on the above information, it is clear that although the two techniques share a similar concept, they differ in many ways. Furthermore, we have presented data based on 18 years of experience. Readers should not be confused between the two techniques, both of which could be used to treat these large complex venous malformations in the head and neck.

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Competing interests

None.

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Patient consent

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References

1. Colletti G, Colombo V, Mattassi R, Frigerio A. Strangling technique to treat large cervicofacial venous malformations: a preliminary report. *Head Neck* 2014;**36**:E94–8. http://dx.doi.org/10.1002/hed.23585. Epub 2014 April 3.
2. Nair SC, Chawla JP, Shroff SS, Kumar B, Shah A. Corseting: a new technique for the management of diffuse venous malformations in the head and neck region. *Int J Oral Maxillofac Surg*)2018;(May). http://dx.doi.org/10.1016/j.ijom.2018.04.026. pii: S0901–5027(18)30158-9. [Epub ahead of print].
3. Nair SC, Spencer NJ, Nayak KP, Balasubramaniam K. Surgical management of vascular lesions of the head and neck: a review of 115 cases. *Int J Oral Maxillofac Surg* 2011;**40**:577–83.

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Regarding ''Impact of crack cocaine use on the occurrence of oral lesions and micronuclei''

We read with interest the recent article by Antoniazzi and colleagues published in the *International Journal of Oral & Maxillofacial Surgery* entitled ''Impact of crack cocaine use on the occurrence of oral lesions and micronuclei''[1]. In their study, the authors detected an increased number of fundamental lesions and micro-