

## **Reply - Management of vascular anomalies: Review of institutional management algorithm**

Sir,

We find it very interesting to read the article titled, “Management of vascular anomalies: Review of institutional management algorithm” in the Indian Journal of Plastic Surgery 2017 May–August issue.<sup>[1]</sup> These anomalies are physically and morally disabling. Furthermore, they are

disfiguring, particularly if they involve the head and neck region. A patient finds it difficult to socialise and loses confidence. Many of the young plastic surgeons are incapable of treating these patients due to poor training. Additionally, due to lack of interdepartmental work culture in most of the medical institutes of our country, these patients become nomads as mentioned by the authors of the article. We would like to suggest few add-ons which may help in better management of these patients. These are points which we have learned at our centre while managing vascular anomalies.

Diagnosis and management of vascular anomalies is truly a challenging task. This is because many other diseases

may be mistaken for vascular anomalies, including plexiform neurofibromas, teratomas and soft-tissue neoplasms.<sup>[2,3]</sup> Furthermore, there is a lot of ambiguity in classification and nomenclature of these lesions. Thus, it is important that all the specialities dealing with these patients follow the recent classification system of the International Society for the Study of Vascular Anomalies 2014.<sup>[4,5]</sup> First and foremost, it is important to have an interdepartmental conference/combined clinic for patient evaluation, which includes at least a plastic surgeon and a radiologist. An otorhinolaryngologist, dermatologist, paediatrician and paediatric surgeon may also be a part of this multidisciplinary team. This prevents unnecessary visits of the patient to different clinics and all the specialists can discuss the patient in one go and plan the further course of management.

Second, due to lack of proper knowledge, many unnecessary investigations are enforced upon these patients. These investigations are expensive and may be inconclusive. Therefore, it is prudent to make a clinical diagnosis in the multidisciplinary clinic and then order a relevant investigation in consultation with a radiologist. This enables judicious use of resources and reduces cost to the patient.

Third, most of the time, sclerotherapy for vascular lesions is given blindly. We feel that sclerotherapy should be ultrasound/fluoroscopy guided. This reduces the side effects because the needle can be directly guided into the cystic spaces. At times, the spaces in venous malformations may be small (microcystic) and thus guided injection would yield better results. Furthermore, a contrast phlebogram enables detection of early draining veins, so that the same may be compressed while injecting sclerosant. Moreover, the appearance on ultrasound or phlebogram may change the choice of sclerosant.

Fourth is proper counselling of these patients, so that treatment plan with realistic goals can be made. This will not only boost their confidence but also save their valuable time and money which is spent on unnecessary investigations and multiple visits to clinics. The goal should be to treat the symptoms, rather than to eradicate

the imaging findings or the disease itself. If the pain and swelling in low-flow malformations can be reasonably controlled by sclerotherapy, then the decision to operate may be withheld or at least delayed. Similarly, if the surgery for extensive arteriovenous malformations is likely to be disfiguring or disabling; then the symptoms may be controlled by repeated embolisation. The latter approach may prove useful because majority of the vascular malformations show growth till puberty and may remain static thereafter.

Hence, management of vascular malformation should be holistic and individualised. Providing a common platform for the management and multidisciplinary approach will improve the outcome in patients of vascular anomaly.

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There are no conflicts of interest.

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#### **REFERENCES**

1. Makhija LK, Bhattacharya S. Management of vascular anomalies: Review of institutional management algorithm. *Indian J Plast Surg* 2017;50:193-200.
2. White CL, Olivieri B, Restrepo R, McKeon B, Karakas SP, Lee EY, *et al.* Low-flow vascular malformation pitfalls: From clinical examination to practical imaging evaluation – Part 1, lymphatic malformation mimickers. *AJR Am J Roentgenol* 2016;206:940-51.
3. Olivieri B, White CL, Restrepo R, McKeon B, Karakas SP, Lee EY, *et al.* Low-flow vascular malformation pitfalls: From clinical examination to practical imaging evaluation – Part 2, venous malformation mimickers. *AJR Am J Roentgenol* 2016;206:952-62.

4. ISSVA Classification of Vascular Anomalies. International Society for the Study of Vascular Anomalies; 2014. Available from: <http://www.issva.org/classification>. [Last accessed on 2018 Apr 02].
5. Wassef M, Blei F, Adams D, Alomari A, Baselga E, Berenstein A, *et al*. Vascular anomalies classification: Recommendations from the international society for the study of vascular anomalies. *Pediatrics* 2015;136:e203-14.

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