

# Heavy eye syndrome: Role of recessions, resections, loop myopexy, and transplants

Dear Sir,

We wish to highlight certain important principles of strabismus surgery referred to in the interesting article by Jethani and Amin.<sup>[1]</sup>

Loop myopexy is routinely performed as the surgical procedure of choice in patients with esotropia and hypotropia associated with high myopia (the so called “heavy eye syndrome”) with altered/displaced lateral rectus (LR) and superior rectus paths on orbital imaging;<sup>[2]</sup> but this comes with the caveat that the forced duction test (FDT) should be free. In the present case described by the authors,<sup>[1]</sup> FDT was positive for abduction and elevation, implying the medial rectus (MR) and inferior rectus (IR) were tight. Therefore, both MR and IR should have been recessed; without which it would not be possible to attain desired results. This is evident in the postoperative photographs, which show significant hypotropia, almost certainly due to tight IR. To give an analogy, in a case of monocular elevation deficit with tight IR, one does not perform the Knapp’s procedure in the first stage. The IR must first be recessed and then Knapp’s surgery may be performed as a second stage procedure if required.

There is not much literature available on the effectiveness of muscle transplants. It has been shown that the transplanted muscle goes through various phases of necrosis and replacement by fibrous tissue with obliteration of the capillaries in the transplanted muscle. The transplanted extraocular muscle tissue can survive and remain viable, but it does not maintain its normal muscular characteristics.<sup>[3]</sup> In effect, the transplantation procedure may just be akin to a hemi-hang back recession. Its contribution in the alleviation of esotropia in the present article remains questionable. As there are no studies comparing the efficacy of transplantation vis-à-vis conventional or hang back recessions, it may be suggested that similar results could have been obtained in the present case even by avoiding transplantation.

We suggest an alternate surgical plan for the present case. In the first stage, hemi-hang back MR and IR recessions may be performed. In the second stage, LR resection with loop myopexy may be done. Staged surgery would allow assessment of the degree of improvement due to alleviation of tight MR and IR vis-à-vis that achieved by loop myopexy, besides avoiding risk of anterior segment ischemia.

Finally, a high-resolution magnetic resonance imaging would have been preferable, rather than a computerized tomography scan, for evaluation of altered muscle paths. Furthermore, a postoperative imaging is desirable to see changes in muscle paths induced by surgery. In addition, postoperative imaging may also give an idea regarding the integrity and function of the transplanted segment.

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