

Surgical Management of Infantile Hemangioma Using the Purse-String Technique: Impact on the Scar.

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Disclosure/Financial Support: None

PURPOSE: To assess scar size reduction (after surgery) using the Purse-String (PS) technique compared to elliptic resection for Infantile Hemangioma (IH).

METHODS: Retrospective study of 431 patients with IH or its sequelae, referred to the multidisciplinary Center for Vascular anomalies between 2005 and 2012. Photographs taken before and after management were analyzed. Statistical analyses were conducted considering each tumor independently. The study was accepted by our local ethics committee. 126 patients underwent surgery, 57 were treated using the PS technique. Fourteen patients could not be used for analysis due to lack of information and two patients were operated using a PS for more than one IH. All tumors were measured by estimating the two diameters of an elliptic form covering the majority of the lesion. The scar length of an elliptic resection was estimated using the double of the length of the shortest diameter. The scar lengths of both techniques were compared using a Paired Sample T-Test.

RESULTS: The 48 IH reviewed in our study had a mean surface before surgery of 8.68 cm^2 ($\pm 7.43 \text{ cm}^2$). 41 IH operated by PS presented a mean scar length of 2.57 cm ($\pm 1.25 \text{ cm}$) compared to a scar length estimation for an elliptic resection of 5.95 cm ($\pm 2.50 \text{ cm}$) (Paired T-test, P-Value $< 0,001$). Seven scars ($n=7/48$, 14.58%) suffered from scar widening and the mean scar surface was 3.51 cm^2 ($\pm 2.72 \text{ cm}^2$) opposed to an initial mean surface of 6.26 cm^2 ($\pm 2.37 \text{ cm}^2$) before surgery (Paired T-test, P-Value = 0,019). Four patients needed scar revision and three patients underwent subsequent lipofilling.

CONCLUSION: The Purse-String technique is a useful tool in the surgical management of infantile hemangioma. Sometimes used for partial resection, it can be used alone or in combination with other techniques.