Has Propranolol Eradicated the Need for Surgery in the Management of Infantile Hemangioma?

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Disclosure/Financial Support: None

PURPOSE : To assess the impact of propranolol as the first-line treatment of infantile hemangioma (IH) on the need for surgery in the management of IH.

METHODS: Retrospective study of 420 patients, with infantile hemangioma or its sequelae, referred to our multidisciplinary Center for Vascular anomalies between January 2005 and August 2014. Clinical data including sex, age at first consultation and at treatment initiation, location, size, number, aspect and complication of IH, as well as type of treatment were collected. Photographs taken before, during and after management were analyzed. The study was accepted by our local ethical committee. Statistical analyses were conducted considering each patient and each tumor independently. The population was stratified according to follow-up duration.

RESULTS: A total of 625 IH were reviewed. 113 patients (P) had more than one IH (26.91%). The mean age of patients was 16 months at first consultation. 243 patients were treated (57.86%) using laser (n=36 P /36 IH), corticosteroids (n=51 P/56 IH), propranolol (n=79 P/89 IH) and/or surgery (n=128 P/141 IH). Propranolol was effective in all but 2 infants with IH. Five patients (7.87%) / 7 IH (7.86%) initially treated with propranolol, still necessitated surgical correction of sequelae, in contrast to 18 patients (35.29%) / 22 IH (39.29%) initially treated with corticosteroids, and 103 patients (36.79%) / 110 IH (29.18%) with no medical treatment. Indications for surgery were the persistence of fibrofatty residuum or lag skin (4.49% versus 28.43%), persistent deformation (2.25% versus 4.57%), scarring and/or ulceration (3.37% versus 12.69%) of propranolol-treated-IH (n=89 IH) versus non-propranolol-treated-IH (n=56+141 IH). With our stratified population, statistical analysis demonstrated a significant influence of propranolol on the number of operated patients (P-Value < 0.001 with an OR of 0.177: CI 95% 0.079-0.396).

CONCLUSION: Propranolol has dramatically reduced the need for surgery in regard to indications and numbers of patients. Surgical correction remains important for the management of sequelae, mainly the resection of the fibrofatty residuum.