Giant hemangiomas of the liver: surgical strategies and technical aspects

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Abstract
The incidence of hemangiomas is 2–7% in the general population. We evaluated more than 300 patients with hepatic hemangiomas. Surgical removal of hepatic hemangiomas was performed in 48 cases due to uncertain diagnosis (2 cases), intractable symptoms (26 cases), size increase (18 cases), and liver failure in 2 cases that were treated by hepatic transplantation. In all, 26 patients underwent enucleation of hemangiomas or segmentectomies, while the remaining 20 patients underwent right lobectomies or left lateral segmentectomies. Blood transfusions were required in four cases (including two liver transplants); mean post-resection hospital stay was 6.3 days. We observed no perioperative mortality and only two cases of major morbidity (bile leaks not requiring reoperation). Our experience confirms that, after adequate patient selection, surgical treatment of hepatic hemangiomas is a very effective therapeutic choice with no mortality and low morbidity.

Key Words: Hemangioma, hepatectomy, Kasabach-Merritt, Budd-Chiari

Introduction
The incidence of hemangiomas is 2–7% in the general population. Hemangiomas are the most frequent benign hepatic tumors and are usually found in patients aged between 40 and 60 years, more frequently in women. In 30–35% of patients the lesions are multiple. If larger than 4–10 cm, they are termed ‘giant’ hemangiomas [1].

Patients and methods
We evaluated more than 300 patients with hepatic hemangiomas. Surgical removal of hepatic hemangiomas was performed in 48 cases due to uncertain diagnosis (2 cases), intractable symptoms (26 cases), size increase (18 cases), and liver failure in 2 cases that were treated by hepatic transplantation. In all, 26 patients underwent enucleation of hemangiomas or segmentectomies, while the remaining 20 patients underwent right hepatectomies or left lateral segmentectomies [2].

Results
Blood transfusions were required in four cases (including two liver transplants); mean post-resection hospital stay was 6.3 days. We routinely used a CUSA Cavitron Ultrasonic Surgical Aspirator (CUSA System 200; Valleylab Inc., Boulder, CO, USA) together with the TissueLink Floating Ball™ device. The Pringle maneuver was never required.

We observed no perioperative mortality and only two cases of major morbidity (bile leaks not requiring reoperation).

All patients (including the recipients of liver transplantation) were completely cured of their symptoms and remain alive and in good health, without long-term complications, after a follow-up period ranging from 2 months to 8 years.

Discussion
Surgical treatment of hepatic hemangiomas is required in case of complications such as platelet sequestration (Kasabach-Merritt syndrome) [3], Budd-Chiari syndrome, and rupture.

We agree with Cameron [4] that surgical treatment of hemangiomas is indicated in case of severe, intractable symptoms, absence of another etiology for symptoms, diagnostic uncertainty, and intraparenchymal or intraperitoneal hemorrhage.

The influence of estrogens and hormone replacement therapy on hemangiomas is still under debate; in pregnancy a conservative approach with serial ultrasonography (US) monitoring is recommended.

Hemangiomas in newborns and infants grow rapidly and can cause coagulopathy or high-output cardiac failure. Therapy may require corticosteroids,
hepatic arterial embolization, α-interferon, cyclophosphamide, external beam irradiation, and surgical excision in case of rupture or failure of conservative therapy.

The differential diagnosis between hemangioma and hemangioendothelioma may be difficult, particularly in children. Although we agree again with Cameron [4] that fine needle cytology and core needle biopsy (18 gauge), either percutaneously or laparoscopically performed, is associated with a low risk (0.03–0.04%) of hemorrhage and may be a useful diagnostic tools, we usually avoid it.

Complications or diagnostic doubts are uncommon indications for surgical treatment, while other intra-abdominal diseases should be ruled out in symptomatic patients.

In fact, Farges et al. found additional intra-abdominal diseases in 42% of 163 patients with symptomatic hepatic hemangiomas [5], while, according to Pietrabissa et al., 50% of patients remained symptomatic after surgery [6].

Our experience confirms that, after adequate patient selection, surgical treatment of hepatic hemangiomas is a very effective therapeutic choice with no mortality and low morbidity [7,8].

References