Some Extraordinary Cases of Giant Hemangioma in Children
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Abstract
Hemangioma is one of the most common tumors in infancy and we aim to show the importance of its spontaneous evolution. They are often present at birth or appear soon after and grow rapidly by endothelial proliferation. Here, we present a series of very extensive and extraordinary hemangiomas, mainly facial, followed for many years in order to be able to evaluate the natural growth and regression of those lesions and allow for a better-based treatment and follow-up.

Keywords: Hemangiomas, Spontaneous evolution, Psychology, Extraordinary cases

Introduction
A hemangioma is a type of benign tumor in infancy, and it is characterized by the abnormal growth of blood vessels in the early proliferative phase [1]. In unusual cases, the hemangioma can trigger a permanent face defect. Active treatment is required to cure the disfigurement of the skin and minimize psychological factors. The etiology of hemangioma remains unknown [2]. The major indications for treatment are ulceration, tumors posing functional risks, life-threatening infantile hemangioma, and severe anatomic distortion, especially on the face [3].

Surgical approaches play an important role in the treatment of hemangiomas. However, the surgical management depends not only on the size, but is also conditioned by accurate assessment of location, risk of complications, and anxiety of patients [4-5].

The main aim of this paper is to present the expected natural evolution of hemangiomas leading to doubts about the wisdom of most of the classically used therapies, but which are at times needed because of the psychological impact the hemangiomas have on even well-informed and cooperative parents.

Material and Methods
We present a series of patients with the most extraordinary and severe cases of congenital hemangiomas, which we have been able to follow over the years, some having started as simple salmon patches to rapidly increase in size with severe facial disfigurement.
Having started as a Salmon patch, at birth rapidly increased in size, Prednisolone (4 mg/Kg/day), administered for 1 month led to marked improvement. Nevertheless, when 1 year old, Hg was 59.2%, so she required blood transfusions. When 9 years old she started Plastic Surgery. When 21 she refused retouching and strabismus correction. (Figure 1)

![Figure 1: A typical recurrent cases with large, mixed depth infantile hemangioma.](image1)

Salmon patch with rapid swelling when 1-month-old had Prednisolone (4 mg/Kg/day), with marked improvement in the size of the lesion. Aged 11 years started Plastic Surgery. Aged 17 a minor injection of Cl 20% was applied. (Figure 2)

![Figure 2: Patients with salmon patch with rapid swelling.](image2)
Salmon patch that rapidly increased in volume. She had Carbonic Snow and sclerosing Cl 20% with minor ulceration. She was given Prednisolone (4 mg/Kg/day). Aged 1 year Hg level was low (48.8 %) and she required a blood transfusion. When 2 years old she was showing marked improvement. Started plastic Surgery when aged 10. Aged 22 refused minor lip repair. (Figure 3)

Figure 3: Case 1 represent salmon patch that rapidly increased in volume at the age of 1 year and after treatment reduced at the age of 2-year, Case 2 represents marked improvement after plastic surgery at the age of 10 years.

11 months old child A left axillary hemangioma suddenly increased in size developing hemorrhagic hemangioma syndrome, platelets being 12,000. After Radical Surgery Platelets were at normal levels just the day following surgery. Although exceptional, surgical removal was possible, with immediate normalization of all problems. Left neck Hemangioma that developed Hemorrhage Hemangioma Syndrome. Before and after treatment with whole blood and platelet transfusions until, within a few weeks, the hemorrhagic tendency stopped. (Figure 4)

Figure 4: Case with left neck hemangioma, after treatment observed normal.
Well localized axillary hemangioma. When about one year old, she developed Hemorrhage Hemangioma Syndrome. Photos before and after treatment with whole blood and platelet transfusions until, within a few weeks, the hemorrhagic tendency stopped, Compression therapy was applied with success. (Figure 5)

![Figure 5](image1.jpg)

**Figure 5:** A case with Hemorrhage Hemangioma Syndrome, after Compression therapy patient was recovered.

Incredibly large neonatal hemangioma, presenting as hemangioma syndrome. Considering that radical surgery in this Syndrome leads to immediate control shoulder disarticulation was even suggested but refused. He was treated with whole blood and platelet transfusions until, within a few weeks, the hemorrhagic tendency stopped. Compression therapy was applied with success, and we believe it was the more relevant factor of therapy. (Figure 6)

![Figure 6](image2.jpg)

**Figure 6:** A case represents incredibly large neonatal hemangioma before treatment and after treatment normalized with all problems.
47015 Salmon patch followed by rapid swelling and small ulceration Treated with 600 rads Started surgery when 15 years old. Aged 22 had slight radiodermatitis and trichiasis (cared for by the Ophthalmologist). (Figure 7)

![Figure 7: Patient with salmon patch followed by rapid swelling before treatment, after treatment salmon path was removed and the patient recovered](image)

**Discussion**

Having been able to follow along the year’s many hundreds of hemangiomas, we believe to have been able to develop a better insight on the best way to deal with those difficult and stressful situations. Usually, a red stain or subcutaneous mass will rapidly increase in size over a few days or weeks, to attain large dimensions to involve very large areas. But after that period of significant growth, they tend to undergo spontaneous regression [6-10]. Prenatal diagnosis is exceptional (Patient 6).

For hemangiomas in general therapy has varied a lot including a “medical approach” (with fresh blood, fresh plasma, erythrocyte concentrate, and platelet transfusions, interferon alfa-2b, prednisolone), a “dermatological approach” (carbonic snow, Yag laser, electrocoagulation) and a “surgical approach” (rarely radical but including single or multiple partial excisions, multiple ligations) [11-16].

We have seen patients that have shown coagulopathy, with areas of hemorrhage alarming by their dimensions and accompanied by thrombocytopenia Nonetheless thrombocytopenia seemed to be no more than a visible laboratory signal of a more complex problem, which is a bleeding tendency involving numerous other coagulation factors, thus explaining why the bleeding tendency tends to stop much before the normal platelets number is attained. Severe anemia can be present and bleeding time is usually prolonged.

Whole blood and platelet transfusions. In the more special cases of hemorrhagic syndrome, whole blood or platelet transfusions allow control of the thrombocytopenia. Curiously enough, platelet counts take much longer to recover than the Hemorrhagic Syndrome itself. Left with conservative treatment, platelets and whole blood transfusions
surprisingly appear to be unnecessary after a short period, and although thrombocytopenia may persist for a much longer period (weeks or even months), without the persistence of the hemorrhagic syndrome. The low platelet count seems to be no more than a visible laboratory signal of a more important bleeding tendency, in which multiple coagulation factors are involved[17-22].

That situation occurs mostly in the first period of life at the same time as happens with the active growth of the hemangiomas. Purpura is nearly always present in these Patients, either in a diffuse or localized form. We believe that this syndrome is a self-limited disease in much the same way as any hemangiomas. One must bear in mind that an apparent case of idiopathic thrombocytopenic purpura may be a case of purpura associated with a visceral hemangioma[23-24].

Pressure therapy, with a simple compression bandage over the hemangioma, if that is feasible, may be important and would leave no sequelae (Patients 3 and 8) Radiotherapy is contraindicated in these patients due to the danger of atrophy and skin lesions, namely radiodermatitis and even late cancer development (although 600 rads were used in patient 9). Argon laser, micro-electrocoagulation, or carbonic snow therapy for superficial stains, we consider are not advisable because they do not improve what nature would do[25-27].

Sclerosing agents (eventually hypertonic saline = 20% Cl) in the very large lesions, are generally not advisable, although we feel they may exceptionally be used, taking into account the possibility of complications, namely ulcerations (Patients). Embolization is also not to be tried.

Beta-blockers, namely oral Propranolol (3 mg/kg daily), have been used by some, but I would not advise its use, considering not only the age of the patients but also eventual hypoglycemia, wheezing, and interference with Blood Pressure[28-31].

Corticosteroids, namely prednisolone, either local, intralesional, or systemic (preferably oral, 4 mg/Kg/day) for 1 month ( or even 2 ), particularly in Infants, may eventually improve the lesions, reducing significantly the size of the hemangioma, although at times the lesion regrows when corticotherapy is suspended. We believe it is the only eventually justifiable treatment for the large congenital hemangiomas, but certainly also for the psychological wellbeing of the parents (although we believe that nature would do the same, as time goes by, but unfortunately taking too long). If exceptionally used for a longer period, a well-controlled endocrinology follow-up should always take place. as we cannot exclude complications if used too long (secondary hypertension, cushingoid features, and growth suppression)[32-34].

Compression is innocuous and may be extremely useful in the limbs (Patients 3 and 8) A biopsy is unnecessary and can even be eventually harmful, so should not be used. Surgery, with total excision of the hemangioma, would be a radical and speedy method of providing cure, namely in cases of Hemorrhagic Hemangioma Syndrome. But in fact, it can very rarely be possible as an initial treatment (patient 2), although plastic surgical repair is certainly essential for finalizing treatment in the vast majority of patients. Artery ligation is certainly exceptional.
Conclusion

We believe that the cases with thrombocytopenia (usually called Kasabach Merritt Syndrome and that should preferably be called the Hemorrhagic Hemangioma Syndrome) are self-limited diseases, as far as the bleeding tendency is concerned.

In any hemangioma careful control of blood components is mandatory. But we believe that the more significant and “real” treatment is “Time”, to be followed by eventual cosmetic Surgery. Therapy is mainly based on the concept of “spontaneous regression”

But really, the more difficult problem to solve for these Patients and their Parents is certainly psychological. A situation in which Teamwork is extremely important and the personal relationship between Doctor/Family/Patient, based on trust and hope, is of paramount value.

For the treatment of those very large and extraordinary haemangiomas, particularly in the face, we believe in four main approaches:

a) Abstain from aggressive therapy and preferably allow nature calmly to follow its path
b) Consider short-term Corticotherapy with Prednisolone (0.25 mg/kg/day)
c) Use surgery mainly for the final aesthetic repair, mostly through the facial pedicle flaps.
d) Rely, from the start, on Psychology (both from the Patient’s Doctor and even qualified psychologists), always for parents and later for the children themselves. Show all of them hope in the result (at adolescence, if not before).

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