Comparative Effectiveness Of Treatment Of Oral Hemangiomas With Ir-Lasers

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ABSTRACT

This article describes the clinical, dissemination, modern diagnosis, stages of development, classification and modern treatments of hemangioma, as well as the results of treatment with IR-lasers, as well as medicamentous treatment, sclerotic treatment and joint treatment. The study analyzed the results of the treatment of 178 patients.

Keywords: Hemangioma, IR-laser, sclerotic treatment, medicamentous treatment.

Introduction: Hemangioma (HA) is a safe tumor that has developed from good quality blood vessels and is mainly observed in the first 18 months of a child's life, characterized by rapid growth and invasion of surrounding tissues. Hemangioma changes color, consistency, and tissue shape during growth, leading to varying degrees of cosmetic defects as well as functional impairment of the limbs. Located around the oral cavity to suppuration, can be observed with complications such as secondary infection as well as wound bleeding. The total incidence of In newborn children is 10-15%, of which 40% is observed in the area of the area of the mouth circumference. In girls and children, the comparative frequency is observed in a ratio of 5:1. 83% of gas located in the head area call dysmorphophobia [4, 7, 15, 22]. Located in the deviation cavity, is often accompanied by complications such as scarring, bleeding and pain syndrome.

The fetal organism becomes relatively sensitive due to the formation of the vascular system in the first 3 months of pregnancy. The process of vascular formation ends at the 7th month of pregnancy, then the endothelial lining of the vessels appears [1, 9, 17, 20]. Skin and mucous membrane hemangiomas are manifested in the process of their development in 80% of cases in pink or bluish spotting at birth. Often during this period, a congenital rash or confusion with postpartum bleeding occurs. Later, during the first 2 weeks after childbirth, there is an increase in the size of the weaving and hemangioma. High-grade

growth of HA is observed at 4 weeks (manifested in the appearance of a red spot rising above the level of the skin or mucous membrane) [2, 8]. growth develops in 4 stages: onset, proliferation, maturation, and involution [3, 5, 20]. Hemangiomas of the oral mucosa (skin) usually grow rapidly within 18 months. In the HA located on the skin, 15-20% absorption is observed, involution for mucous membrane hemangiomas is not considered characteristic. OH often cause a child's eating disorder due to the size or the presence of complications [9, 21]. According to data from many studies, the skin per 80% is observed in the head and neck of the body, of which 40% corresponds to the area of the oral cavity [7, 14, 18].

Currently, there are more than 20 classifications of vascular tumors-hemangiomas worldwide according to their shape, character, histological structure, complications and other characteristics [13, 19, 21]. Some of these are still used in the clinical practice of some clinics, such as the simplified ga classification proposed by Kondrashin (1963).) [1, 11, 16, 18, 22].

- Simple capillary
- Simple hypertrophic
- Cavernous
- Mixed
- Systemic hemangiomatosis

International practice currently employs a classification adopted by the International Society for the study of Vascular Anamalies (ISSVA), the Society for the study of vascular anamalies, at the 1996 XI International Society for the study of vascular anamalies symposium in Rome [1,4,5,6,13]. In 2007, 2016, and 2018, This accepted classification included further replenishment [1, 10, 11].

Research objective: Improving the results of complex treatment of oral hemangiomas using different wave range beams of the IR-laser device.

Materials and inspection styles: Scientific work was carried out during 2015-2022 at the Department of "surgical diseases" of the Tashkent Medical Academy (City Hospital №. 1) and the Department of "Oncology and medical radiology" of the Andijan State Medical Institute (Andijan branch of the Republican specialized scientific practical medical center of oncology and radiology). In scientific research, Fdt with high energy lasers based on IR radiation (CO2, NDYAG, Pulse dye laser) has been used in the treatment of hemangiomas located in the oral cavity.

In the research work, 178 patients were examined, of which 96 were treated by selecting treatment tactics depending on the stage of development of oral hemangioma. The comparative group is made up of 82 patients, the base of the Department of Oncology and medical radiology of the Tashkent Medical Academy and the Andijan State Medical Institute is the branch of the Republican specialized oncology and radiology scientific practical Medical Center Andijan and on the basis of various treatment institutions of our Republic used all known methods of treatment (1. and 2. listed in tables).

The age contingent of patients is from the age of newborn to 60 years. 78% were for girls and 22% for boys.

Table 1.
Distribution of patients with hemangioma in groups by age.

№	Main group		Comparative group	
Age group	Number of patients	Frequency (%)	Number of patients	Frequency (%)
Breast ages	59	61,4±4.9*	5	6,1±2,6
Preschool age	18	18,8±3,9*	38	46,3±5,6
School prep and junior school age	11	11,4±3,2*	26	31,7±5,1
Senior school age, adolescence	8	8,4±2,8	13	15,9±4,0

Total:	96	100	82	100

* P < 0,05 relative to the comparison group

Table 2

Arrangement of hemangiomas in groups.

Location	Main group		Comparative group	
	Number	%	Number	%
Language	13	13,5±3,4	10	12,2±3,6
Upper and lower lip	44	45,8±5,1	53	64,6±5,2*
Cheek	25	26,0±4,4*	16	19,6±4,3
Soft and hard palate	11	11,5±3,2	2	2,4±1,6
Gum	3	3,2±1,7	1	1,2±1,2
Total	**96**	**100,0**	**82**	**100,0**

* P < 0,05 relative to the comparison group

All 178 patients with oral hemangioma β - adrenoblocator (Propronalol) treated with. The main criterion for the appointment of a medicamentous treatment is the age of the child, which should not exceed 6 months, after this age, the effectiveness of the medicamentous treatment does not exceed 20%.

Medicamentosis was often used in amounts of 1-2 mg/kg when undergoing treatment. The course of treatment was carried out for at least 2 months and continued for up to 6 months, when positive results were obtained. Before and during treatment, it is imperative to control the cardiovascular activity of the patient, and such examination methods as ECG, measurement of the number of heartbeats, blood pressure control and exocardiogram were performed. Patient children should be under the supervision of a cardiologist. Treatment was carried out in 90% outpatient, 10% inpatient conditions.

β - adrenoblocators a study of the long-term results of isolated Administration found that some patients had a bradycardia condition when using the drug. This was manifested externally by the drowsiness and physical inactivity of the child (Table 3).

Table 3.

Results of treatment of patients with Obg with β-adrenoblocator (propronalol).

Result	Up to 6 months old	After 6 months of age
Good	47%	20%
Satisfactory	42%	15%
Unsatisfactory	11%	65%

when choosing the type of laser in treatment, we followed the following criteria:

A 10.6 mkm wavelength CO-2 laser allows for visually controlled coagulation and cut and radical removal of hemangioma tissue. The surrounding tissue damage area is minimal and does not exceed 300 mkm. The main problem with the use of this type of laser in the treatment of gas is poor hemostatic exposure to venous vessels 1 mm in diameter and greater, as well as the presence of free blood at the site of exposure causing inefficiency of the treatment. Thus, this type of laser is applied to cut and remove the IGs in the stabilization growth phase, located in the area of the tip of the tongue and the lip.

Children receiving treatment treatments have been referred with basic complaints such as the presence of the derivative, cosmetic damage, functional disorders during meals. In some cases, objective changes have also been observed: in 15 cases ga maserasia with scarring, in 18 patients bleeding due to frequent injury,

while in 9 cases infection was recorded when ga was located in the oral cavity. due to the injury, 20 patients complained of pain. The presence of HA has led to functional changes in the form of pain in 13 patients as well as difficulties in eating and swallowing food. For example, a 12-year-old patient with tongue cavernous Gass has been noted to have a change in taste perception. Gani caused deformities in 5 patients as a result of its growth into members.

In all patients with small-sized ga (up to 1 cm) and weak blood flow, treatment with the HA CO-2 laser ("scalpel-1" device) was performed during the first treatment session. The exposure was carried out in remote mode using focused beams, which leads to a minimal risk of bleeding. The output power of the so-2 laser radiation was 10-15 w, the Surface power density (Ps) was 40-150 W/cm2 (average 136.66±1 W/cm2), respectively, the surface energy density (Es) was achieved at mean values 6644.22±10 J/cm2 (1000 to 60000 J/cm2).

In the process of visually controlled photocoagulation, the pathalogical tissue was selectively affected to the limit of healthy tissue. During the operation, ga decreased in size, flattened and changed its previous color. The operation process is completed by moistening the coagulation with a solution of potassium permanganate or brilliant green to the place where the Shell was formed. In order to protect the HAs located in the lip area from mechanical damage to the coagulation scabbard in the natural folds after the procedure, only 6 patients had an aseptic ligament attached.

In the post-laser application period, the laser does not require special attention to the affected areas, once every 1-2 days it is enough to treat with one of the antiseptic solutions (solution of briliant Green in 1% ethyl alcohol, 70% ethyl alcohol). In gas located in the area of the corners of the lips, maseration, secondary infection fall, strict adherence to hygiene measures and daily aseptic ligament renewal have been carried out to prevent damage to the coagulation curtain. In a number of patients, coagulation of the veil and punctate exudation along its circumference were recorded for 2-3 days. In one case, due to damage to the coagulation curtain in the mucous membrane of the oral cavity, a 5-month-old child was observed with a degree of bleeding that stopped with mechanical pressure.

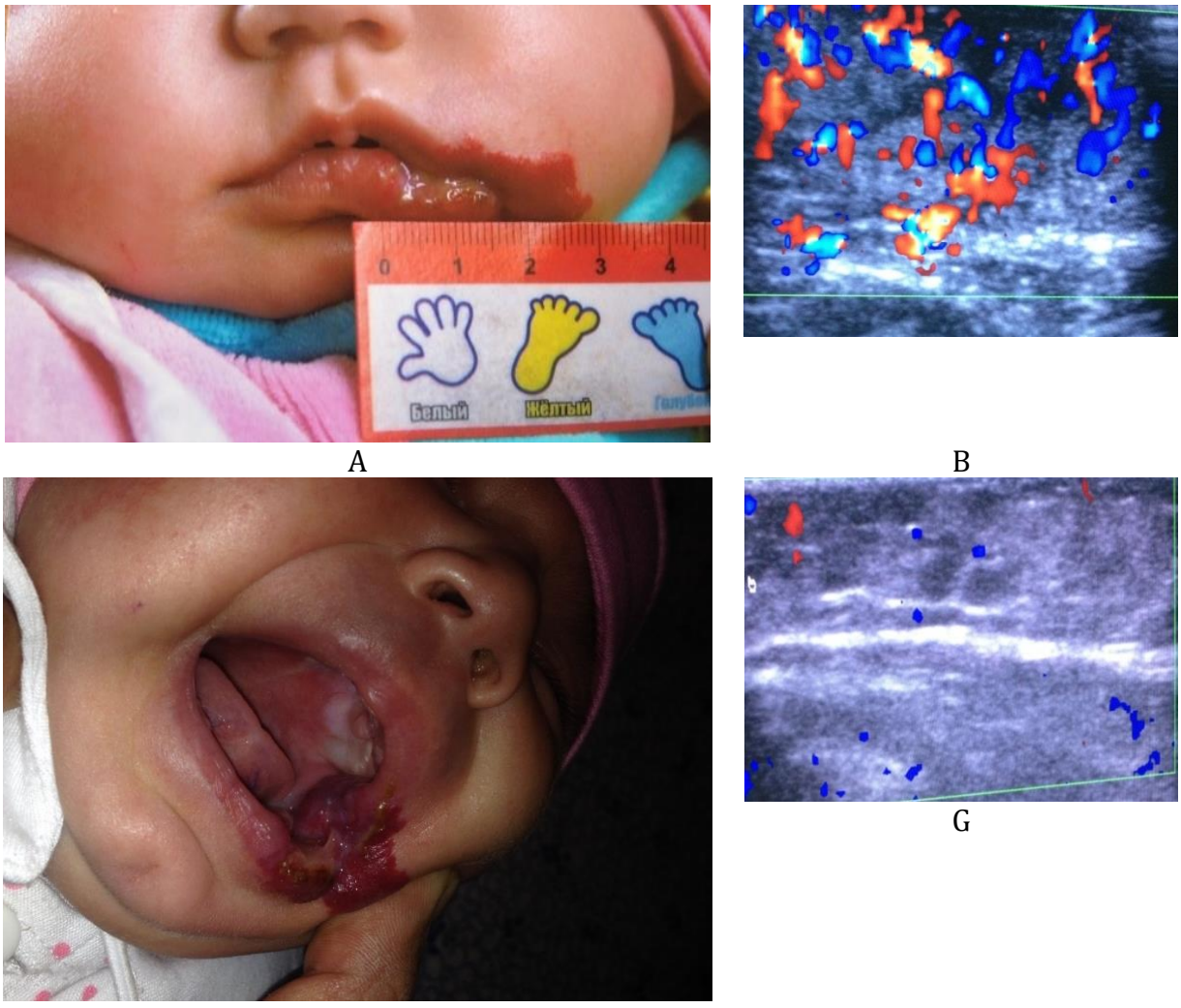
It is noteworthy that only 35 patients were found to have localized changes in the form of edema lasting up to 1-3 days.

After one-time photocoagulation with so-2 Laser, good and satisfactory results were obtained in the treatment of 27 gas. In 3 patients observed to normal hypertrophic, flat red spots remained after a single so-2 laser treatment, in general, a reduction in HA up to 1/3 of the initial size was observed. In 2 patients observed to cavernous so-2 Laser photocoagulation, HA sites with a diameter of 0.5-0.7 cm were retained that rose slightly above the skin level. Repeated CO-2 Laser photocaogulation treatments were carried out in addition to 3 of the patients with such types of relapsed and residual ga parts.

The best results in the treatment of kgs were obtained with satisfactory results from the use of so-2 lasers (83.9%) and only pulsed diode lasers in capillary ga forms.

The effectiveness of galari's treatment was assessed through visual and USE data output. The next treatment sessions of laser destruction are carried out depending on whether the nourishing blood vessels of the HA are completely devascularized, as well as the effectiveness of additional methods of treatment, such as sclerotherapy, general treatment, the use of local hormonal drugs. To devascularization level the rate of blood flow in the GA and the level of blood supply is determined through the USE dopplerography examination.

Venous blood flow before treatment is 8.6±1.1 cm\SEC, 1.0±0.1 cm\SEC ($R < 0.05$) after treatment; 18.7±2.2 cm\SEC before treatment in mixed gas, 2.1±0.1 cm\SEC ($R < 0.05$) after treatment (Figure 1).



A B

V G

Figure 1. Patient K. 6 months. Diagnosis: right corner of the lower lip and mouth with cavernous hemangioma, wound complication (A) and dopplerography picture of the same condition (B). Hemangioma post laser destruction (V) and dopplerography (G) picture.

Conclusion: Color dopplerography examination in cases of increased arterial, venous and mixed blood flow, against the background of medicamentous treatment, there will be an indication to undergo sclerotic therapy procedures aimed at reducing the blood flow rate to 5-10 cm/s and reduce the occurrence of complications during and after complex treatment with IR lasers. In the presence of weak venous or partially accelerated blood flow in the deep tissues of the oral mucosa, the practice of laser coagulation is carried out up to 7-15 times using a distance Diode Laser (up to 5 W, in continuous exposure, energy 2-3 J) and interstitial radiation (3-5 W, energy up to 15 J). In the presence of residual blood flow and in the case of outward growth of the hemangioma, laser coagulation of so-2 in a moderately focused mode (power 7-10 W, Energy 20-30 J) will be indicated. In the so-2 Laser pathological tissue cutting mode (power 10 W, Energy 50 J), there will be an indication for deformation in the lip and lunge area and surgical correction of scars.

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