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Case report/Kazuistyka

Topical timolol gel for the treatment of residual facial hemangioma previously treated with propranolol

Timolol w leczeniu miejscowym resztkowego naczyniaka twarzy leczonego uprzednio propranololem

Ewa Matuszczak, Marzanna Oksiuta, Wojciech Dębek, Ewa Dzienis-Koronkiewicz, Adam Hermanowicz*

Pediatric Surgery Department, Medical University of Bialystok, Head: dr hab. n. med. Wojciech Dębek, Białystok, Poland

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ABSTRACT

This case report demonstrates efficacy of topical timolol for the treatment for residual IH in the facial area in a child, previously treated with propranolol. The treatment was well tolerated. Local or systemic side effects were not seen. **Conclusion:** Timolol gel is an effective therapy option for residual hemangiomas, and should be considered as a complementary treatment for residual hemangiomas after terminating propranolol treatment.

* *Corresponding author*: Klinika Chirurgii Dziecięcej, Uniwersytecki Dziecięcy Szpital Kliniczny, ul. Waszyngtona 17, 15-274 Białystok, Poland. Tel.: +48 608 430 844; fax: +48 857 450 920.
E-mail address: ewamat@tlen.pl (E. Matuszczak).

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Introduction

Infantile hemangiomas (IH) are neoplastic proliferations of endothelial cells, which grow after birth and usually regress spontaneously [1]. IH occur with an incidence of 10–12% within the first year of life, and female infants are three to four times more likely to suffer from IH as male infants [2]. IH can lead to deformities when they are located in the facial areas of the lip, nasal tip or the ear. IH can be life-threatening when present in the upper airways, brain and liver, by inducing acute respiratory failure and congestive heart failure [1, 2]. Tumor involvement can be superficial, deep, or mixed. The majority of IH enlarge over 6–9 months and then spontaneously involute over 2–10 years. It is difficult to assess whether IH will continue growing or regress spontaneously. Often there are residual findings [1, 2]. Although the majority of residual IH are aesthetically insignificant, but still may be the cause of parents concern if in visible locations. The treatment of even small hemangioma in the facial area should be considered, as it is not possible to predict the outcome, and they are associated with parental distress. Currently there are not many therapeutic options. Corticosteroids have been the first-line agents for systemic treatment for IH. Recently oral propranolol, a non-selective beta-blocker, has emerged as an alternative in the treatment of IH [1, 2]. Corticosteroids and propranolol both may have significant systemic adverse effects [3, 4]. A limited number of topical agents have been adapted for treatment of IH – corticosteroids and imiquimod [5]. Small IH were also treated by pulse dye laser (PDL) [5]. Recently, timolol maleate gel, a topical nonselective beta-blocker has been reported as a potential new topical agent for superficial IH [6]. We present a case report of multisite, facial, superficial IH treated with propranolol and its residual treated successfully with timolol maleate gel.

Case report

A baby girl with multiple, facial hemangiomas presented to our department at the age of 2 months. The hemangiomas were superficial and located on the eyelids, on the tip of the nose, on the upper lip and in the temporal area of the forehead (Fig. 1). A physical examination of the girl was performed before the start of the therapy in order to exclude other illnesses and rule out treatment contraindications. An echocardiography was performed and blood pressure was taken. With the written consent of both parents, at the beginning the girl was treated with propranolol. During three consecutive days dosage of propranolol was gradually increased to 3 mg/kg. During ambulatory surveillance of the girl, potassium, sodium, chlorine, glucose, liver enzymes, morphology, vital signs and ECG were monitored. The hemangiomas slowly diminished in size. After 6 months of treatment the dose of propranolol was reduced to 2 mg/kg. After next 2 months of treatment the dose was reduced to 1 mg/kg. The treatment was terminated after 10 months at the age of 1 year. Still there were residual hemangiomas on the upper lip, tip of the nose and forehead, and were the cause of parents concern (Fig. 2). At the age of 1 year and 3 months the treatment with timolol maleate gel was started. Timolo gel was applied twice a day by rubbing carefully on the hemangiomas, for a period of 2 months, and once a day for a period of one month. Before the start of the timolol therapy, pictures of the hemangiomas were taken. No side effects were reported by the parents, and the

Fig. 1 – Patient before the treatment
Ryc. 1 – Pacjent przed leczeniem

Fig. 2 – Patient after oral propranolol treatment
Ryc. 2 – Pacjent po doustnym leczeniu propranololem