

MODERN APPROACH TO THE RETINOPATHY OF PREMATUREITY TREATMENT

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ABSTRACT

Retinopathy of prematurity is a proliferative retinopathy that occurs in prematurely born children. It is still the leading cause of preventable childhood blindness worldwide. The aim of this paper is to present the therapeutic modalities for the retinopathy of prematurity. Current gold standard treatment is the laser photocoagulation of avascular retina in order to reduce its existing hypoxia. By expanding our knowledge of the pathogenesis of retinopathy of prematurity, and the knowledge of the laser therapy efficiency and complications as well, new therapeutic options appear (intravitreal application of anti VEGF, gene therapy and administration of supplements). In order to avoid the visual function loss in prematures caused by retinopathy of prematurity, screening of the premature newborn is the first choice.

Key words: retinopathy of prematurity; vascular endothelial growth factors; antibodies, monoclonal, humanized.

INTRODUCTION

Retinopathy of prematurity (ROP) is a multifactorial, vasoproliferative disease which is the leading cause of preventable childhood blindness, both in developing and developed countries. The difference in incidence and risk factors (1) is made according to the degree of the development of health care system (perinatal care, screening criteria) and race (2-6). World Health Organization gave great significance to ROP control by introducing the protocol for following up prematurely born children – ‘Vision 2020 Programme’ (7). Anti VEGF therapy is good choice with great effects for the treatment of the active form of ROP.

PATHOGENESIS

ROP is a biphasic disease. In the first phase hyperoxy and obliteration of blood vessels can be detected. The second is presented with hypoxia and neovascularization (8,9). Retinal vascularization starts in the 16th week of gestation and finishes soon after birth. The birth of the