Superselective intra-arterial chemotherapy for group D Retinoblastoma eyes

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Purpose: To evaluate the experience using superselective intra-arterial chemotherapy (SIAC) for retinoblastoma group D eyes in two referral centers in São Paulo-Brazil.

Method: Retrospective interventional study. From April 2011 to August 2016, 93 eyes of 87 patients with retinoblastoma Group D were treated with SIAC as primary or secondary therapy. One to three different drugs were used (Melphalan 3.0-7.5mg; Topotecan 0.3-1.0mg; Carboplatin 20-40mg) as necessary. Adjuvant therapy was used as needed to consolidate treatment.

Results: The mean patient age at SIAC was 24 months (median 17; range 7-119 months). The treatment was secondary in 67 eyes (72%) and primary in 26 eyes. 334 infusions were performed, with a mean of three cycles per eye (median 3; range 1-8 cycles). Melphalan plus topotecan and carboplatin (M+T+C) were used in 45 eyes (48%), melphalan and topotecan (M+T) in 43 eyes (46%), melphalan (M) alone in 4 eyes (4%) and topotecan and carboplatin in one eye. Intravitreal chemotherapy with M or M+T was used as adjuvant treatment for vitreous disease in 23 eyes (25%); in 11% of naïve retinoblastoma eyes and in 30% of rescue eyes. No eye received external beam radiotherapy. At a mean follow up of 25 months (range 3-64 months) all patients are alive with no metastatic disease, extra-ocular extension or secondary leukemia. No neurological complications were reported. 76 eyes (82%) were preserved.

Conclusion: The use of SIAC as primary or secondary therapy modality to treat group D eyes showed successfully results.