



SHEA 2011 ANNUAL SCIENTIFIC MEETING

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475 Risk factors for Post Operatory Endophtlmitis Caused by Pseudomonas aeruginosa in a Specialized Ophthalmologic Center in São Paulo, Brazil

Sunday, April 3, 2011
Trinity Ballroom (Hilton Anatole)

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Background: In a previous study we identified that despite the low incidence (0.06%) of Post Operatory Endophtlmitis (POE), *P. aeruginosa* persisted as the main etiologic agent causing POE after cataract surgery in our institution, with devastating consequences in its evolution.

Objective: To identify risk factors for POE caused by *P. aeruginosa*.

Methods: It was carried out a retrospective case-control study including 8 cases and 24 controls operated in the period from 2004 to 2009 at the Centro de Oftalmologia Tadeu Cvintal (COTC), a specialized ophthalmologic center located in the city of São Paulo, Brazil. POE case was defined as an infection restricted to the ocular globe, with at least three of the following post-surgery signs or symptoms: anterior chamber reaction, vitreous cloudiness, low visual acuity, pain, hypopyon, fibrin formation, conjunctival redness and eyelid edema, in which the etiologic agent isolated was *P. aeruginosa*. Controls were randomly selected among the patients who had been operated at the same days of the cases. The following variables were studied: ethnics, age, gender, diabetes, ocular affection presence at the time of the surgery (as blepharitis, dry eye, dacryocistitis, symblepharon, trichiasis, entropion, corneal ulcers), operated eye, type of anesthesia, surgical shift period, operating room number, surgeon, anesthesiologist, operating room nurse, total surgery duration, phacoemulsification duration, intraocular lens (IOL) type, and use of iris hook, tripan blue, vancomycin or adrenalin added in Balanced Salt Solution (BSS). Potential risk factors were analyzed using univariate methods, and $P < 0.05$ was considered significant.

Results: The time from surgery to the first sign or symptoms varied from 2 to 73 days (mean 12; median 3 days), with anterior chamber reaction and low visual acuity as the most frequent sign and symptoms. Men corresponded to 2 cases and 9 controls; women were 6 cases and 15 controls. The mean age was 66 for both cases and controls. The risk factors associated with *P. aeruginosa* infection were: the surgery done in the operating room number 8 and longer phacoemulsification duration (respectively $P = 0.003$ and $P = 0.001$). Contrary to our expectation, vancomycin use was not identified as a risk factor for this etiologic agent. Specific measures adopted: the operating room involved had its physical structure refurbished and thoroughly washed and disinfected. The surgeons were oriented to reduce as much as possible the phacoemulsification duration.

Conclusions: The risk factors associated to *P. aeruginosa* in our institution were not associated to patients characteristics but to surgical environment and phacoemulsification duration. All these risk factors were appropriated managed to prevent other cases. There were no more cases of *P. aeruginosa* since 11/2009, when the specific preventive measures were implemented.

Table 1. Distribution of endophthalmitis caused by *P. aeruginosa* according to the type of surgery, presence of posterior capsule rupture (PCR), vitreous loss (VL), time to onset of symptoms, age, diabetes, type of intraocular lens (IOL), preoperative visual acuity (PVA) and final visual acuity (FVA). São Paulo, 2010.

CASE	EYE	TYPE OF SURGERY	Nº Days to presentation	RCP	VL	AGE	SEX	DIABETS	TYPE OF IOL	PVA	FVA
1	E	PHACO	4	S	N	58	F	N	SILICONE	20/70	NLP
2	D	PHACO + Trab	6	N	N	77	F	N	SILICONE	20/200	LP
3	D	PHACO	2	N	N	65	F	S	ACRYLIC	20/200	NLP
4	D	ECCE	73	N	N	63	M	S	ACRYLIC	CF	LP
5	E	PHACO	3	N	N	74	M	S	ACRYLIC	20/200	EV
6	D	PHACO	3	N	N	83	F	S	ACRYLIC	20/70	EV
7	E	PHACO	3	N	N	54	M	S	ACRYLIC	20/70	NLP
8	D	PHACO	2	N	N	61	F	N	ACRYLIC	20/50	LP

Phaco: phacoemulsification. Phaco + Trab: phacoemulsification and trabeculectomy. ECCE: extracapsular cataract extraction.

NLP: no light perception. LP: light perception. CF: counting fingers. EV: evisceration.

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