

BACKGROUND

- Sympathetic ophthalmia (SO) is a rare, bilateral, granulomatous panuveitis that occurs following accidental or surgical penetrating eye trauma.¹
- Most cases of SO occur within one year and can be extremely challenging to manage, with many patients requiring multiple immunosuppressing agents and even possibly steroid dependency.²
- SO is a serious global public health concern as it can cause bilateral vision loss if left undertreated.

PURPOSE

- To determine the global incidence proportion and incidence rate of SO following open globe injury (OGI) in the adult and pediatric populations.

METHODS

- Systematic literature search for all articles relevant to SO from inception to November 1, 2020.
- Databases included: MEDLINE, EMBASE, Cochrane, and grey literature databases.
- Covidence used to remove duplicate records.
- 2 levels of screening conducted by 2 independent reviewers at each level.
- Quality check for included articles was done using Risk Of Bias In Non-Randomized Studies – of Interventions.
- Data was extracted, and a meta-analysis of proportions and of single incidence rates was performed using STATA and R respectively.

RESULTS

- 1,100 unique articles retrieved from the literature search.
- Screening of the titles and abstracts resulted in the removal of 926 items; second round of screening of the remaining 174 studies excluded 150 full-text articles.
- 24 studies, with 93 cases of SO from a total of 37,684 patients, met our inclusion/exclusion criteria and were included in the meta-analysis.

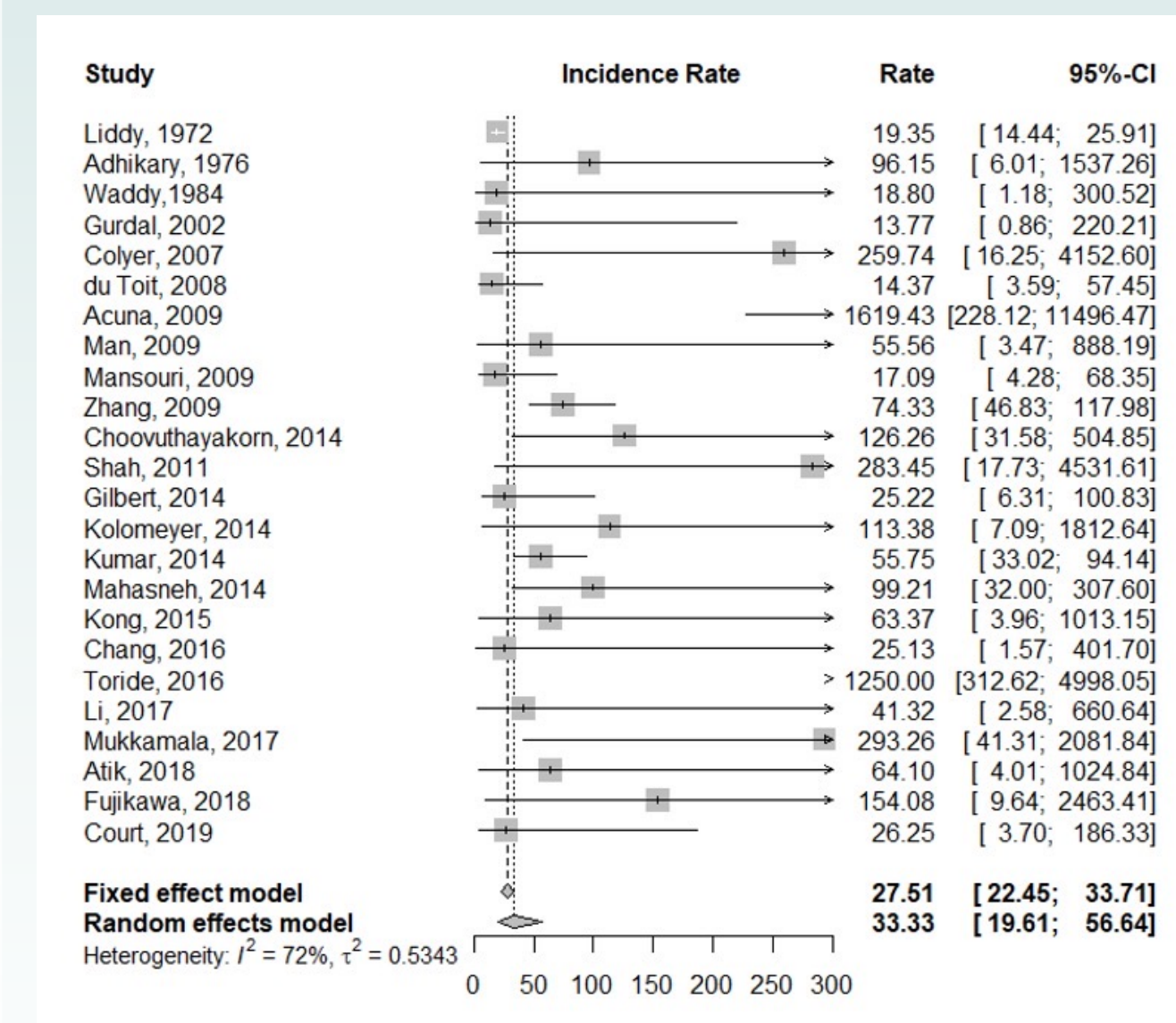


Figure 1. Random-effects meta-analysis of incidence rate of SO post OGI.

	Overall (95% CI)	Adults only (95% CI)	Pediatric Only (95% CI)	t-test
Number of studies	24	19	5	
Incidence Proportion (%)	0.19 (0.14-0.24) I ² =13%	0.18 (0.14-0.24)	0.39 (0.26-0.76)	p=0.138
Incidence Rate (per 100,000 person-years)	33.3 (19.6-56.6) I ² =72%	24.6 (19.7-30.9) I ² =71%	57.4 (35.7-92.4) I ² =64%	p=0.163

Table 1. Incidence proportion and incidence rate of SO post OGI.

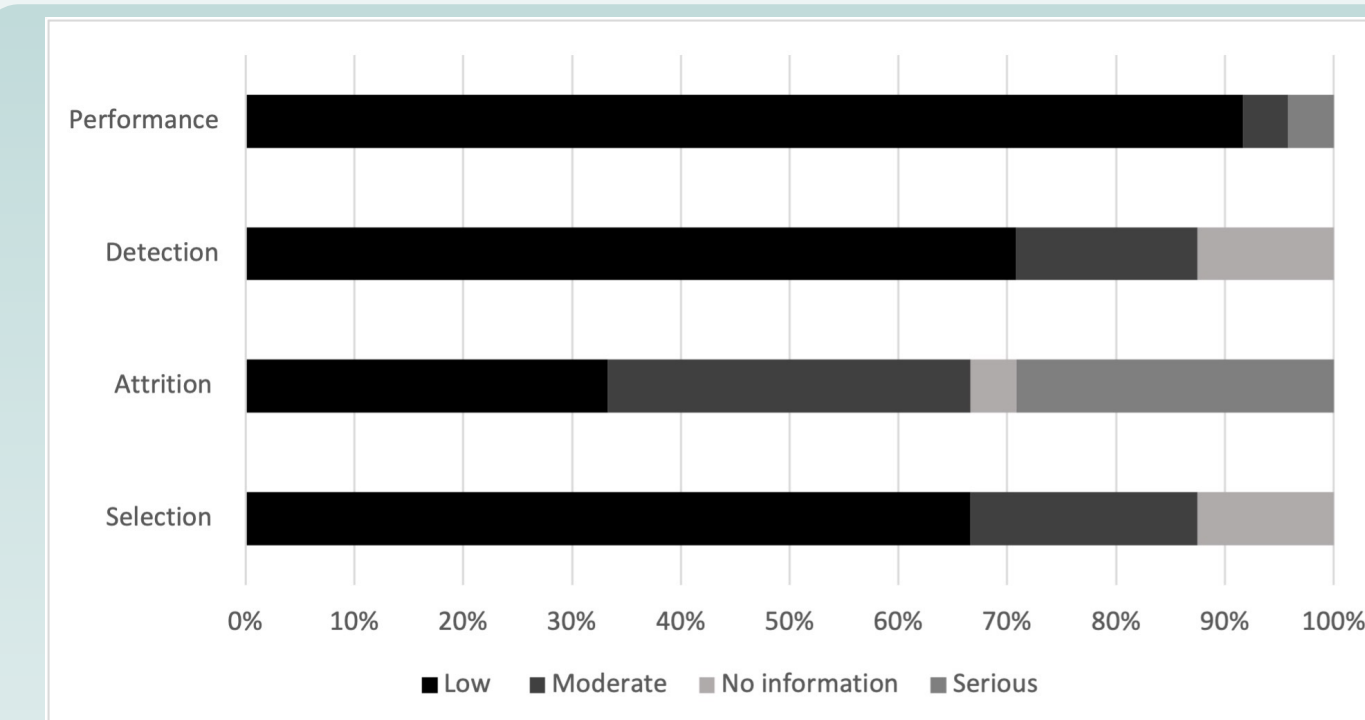


Figure 2. Risk of bias summary.

DISCUSSION

- Our meta-analysis found the overall incidence rate of SO at 33 per 100,000 person-years, with a higher, but not statistically significant, incidence in the pediatric population
- More than three-quarters of the subjects with SO were male, and the median age was 37 years old, which reflects the overall OGI population as both sex and age are risk factors for OGI.
- Future directives include prospective studies to determine the incidence of SO with respect to age, gender, type of injury (globe rupture, penetration, perforation, or intraocular foreign body), location of trauma (anterior versus posterior), and extent of globe injury.

CONCLUSIONS

- The incidence proportion of patients with SO after OGI was 0.19% overall and 0.39% in children.

REFERENCES

A list of references can be found here:

