A population study involving patients receiving cataract surgery during 21 years in Western Australia found the overall rate of those also requiring anterior vitrectomy at about 1.2 per cent, but with risks significantly elevated for several subgroups, Jonathon Ng PhD, MD, Eye & Vision Epidemiology Research (EVER) Group, Perth, Australia, told the XXX Congress of the ESCR.

Risks were higher in male patients and patients aged under 50 years, and retinal detachment was the most likely complication.

Data for the study were drawn from the Western Australia Data Linkage System, which combines eight million medical records from hospitals and registries going back to 1980. The system encompasses the geographically isolated and stable population of the state of Western Australia, currently about 2.4 million, creating opportunities for large-scale whole-population studies, Dr Ng said. The current study is part of a larger long-term study of cataract surgery complications.

For the period 1980 to 2001, 129,082 cataract/lens procedures were identified from the hospital Morbidity Data system and of these procedures 6,286 potentially had a sight-threatening complication at the time of or after the original cataract surgery. Chart review of these cases confirmed that 1,390 had an anterior vitrectomy at the time of cataract surgery, Dr Ng reported.

The number of cataract surgeries performed annually climbed steadily from a handful in 1980 to nearly 14,000 in 2001. For the entire period, the overall rate of concurrent anterior vitrectomy was 1.2 per cent, dropping from almost five per cent in 1980 to around one per cent in the late 1980s, and fluctuated between one and two per cent through to 2001.

Male gender was found to be a significant risk factor for anterior vitrectomy with cataract surgery, at 1.23 times the risk of females (p<0.001). Similarly, patients aged under 50 years had 1.31 times increased risk compared with those aged 80+ years, (p<0.03), Dr Ng said.

Compared with privately owned hospitals, patients operated at public hospitals had 1.49 times the risk of anterior vitrectomy (p<0.001), and compared to metropolitan hospitals, rural patients had 1.4 times higher risk (p<0.001).

“This probably reflects to a degree the different case mix between the different locations,” Dr Ng said.

Using extracapsular cataract extraction as a reference, phacoemulsification carried a 0.85 times reduced risk (p<0.04), Dr Ng noted. Much more significantly, other cataract and lens-related procedures carried more than 11 times the risk of anterior vitrectomy.

“This reflects that these surgeries are most likely complicated and difficult cases.”

One finding that is difficult to explain is a 1.62 times increased risk for procedures done from 1995 compared with 1980 to 1984 (p<0.001), though this may also be related to case mix, he added.

If an anterior vitrectomy was required, the risk of potentially sight threatening complications were also increased, with the chances of IOL dislocation 21 times greater, corneal oedema 27 times greater and endophthalmitis 3.6 times greater.

Most frightening was the risk of retinal detachment. Although the relative risk was 18.5, when looked at in terms of the number needed to harm, for every 12 anterior vitrectomies there was one retinal detachment, Dr Ng said.

“These differences highlight the importance of monitoring performance,” Dr Ng concluded.