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Sir,
Deciphering the code: does clinical coding accurately reflect peroperative cataract surgery complication rates?

In the modern National Health Service (NHS), performance outcome is increasingly being compared between surgical units. These quality indices exert a significant influence on the choice of providers offered to the patients by commissioners including patient care advisors in the primary care trusts. Cataract choice initiative gives patients a choice based on performance outcomes that include derived complication rates and waiting times.

One of the key indicators of the performance outcome in relation to cataract surgery is annual complication rates. These are determined currently by CHKS (CASP Healthcare Knowledge Systems, CASP-Clinical Accountability, Service Planning and evaluation), which is an independent national company that is paid by the NHS trusts to analyse the data based on the input by the current coding system. Coding has an established role in standardising the recording of clinical episodes for the purposes of healthcare planning and service delivery. The resulting analysis including complication rates is then forwarded to the Department of Health for subsequent dissemination. In addition, audit and clinical governance issues along with reimbursement via the

Payment by Results mechanism in the future depend on the accuracy of coding.

The system of coding varies across different trusts within the NHS and Independent Sector Treatment Centres (ISTCs). In some hospitals, the operating surgeon performs coding via the electronic patient record system. However, more frequently in NHS hospitals, nonmedical health informatics staff known as coders are delegated this task. Documents such as International Classification of Diseases (ICD-10)¹ and Office of Population Censuses and Surveys (OPCS-4)² along with coder's interpretation of operation notes written by the surgeons constitute the current coding system. ICD-10 document has the codes for the diagnoses and OPCS-4 for the surgical procedures performed within all surgical specialities. These documents were published in the early 1990s.

In this study, we assess the accuracy of the current system of coding of per-operative cataract surgery complications based on the guidelines from the Royal College of Ophthalmologists.

A retrospective case note study of 85 consecutive complications that occurred from January 2004 to January 2005, as coded by the current system, was performed. Five patients operated on in a different hospital as a part of waiting list initiative were excluded. The remaining 80 patients were included in the study.

Two masked observers (ophthalmologists with experience of cataract surgery) coded the complications following the detailed standard format issued in the Royal College guidelines.³ The resultant data generated by the two systems were then compared. The positive predictive value of current system (using coders) is estimated against the data generated by the ophthalmologists. The difference in the calculation of complication rates is then highlighted.

The results highlighted significant inaccuracy. The patients were divided into two categories. Forty out of eighty patients did not have any complication (Group 1). These included patients who had planned vitrectomy with phacoemulsification for retinal surgery, lens extraction as a part of penetrating eye injury repairs with vitreous loss, etc. Out of the remaining 40 cases (Group 2), only 15/40 (38%) were found to be accurately coded, that is 'complication occurred as described by the coders'. Twenty-five out of forty (62%) were miscoded and subdivided into (Group 2a) 'miscoded due to inaccurate interpretation of operating notes' in 11/25 (44%) and (Group 2b) 'miscoded due to unavailability of suitable codes' in 14/25 (56%). Inaccurate interpretation occurred because of lack of knowledge and understanding, and lack of communication between the coder and the surgeons. The positive predictive value of accuracy of the current

system of coding for occurrence of a complication was found to be poor at 50% with 95% confidence interval of 39–62%.

This inaccuracy resulted in gross overestimation of annual complication rates. The annual rate of complication calculation of 4.92% was reduced to 2.51% by this review process. The current system is not robust enough to allow fair comparison between sources. Derivation of cataract surgery complications from such data has resulted in misrepresentation of clinical activity of individual surgeons and surgical units. This may lead to misinformation of patients. Further, preoperative risk stratification⁴ was not carried out and visual outcome not considered as the performance outcome.

Several recommendations from this study have been implemented. The current practice has been altered. There is now direct input from the surgeons in the coding process, which results in better understanding of surgical procedures by the coders. An urgent need to update the codes nationally was identified, which has been followed by launch of updated version of OPCS-4.3 in April 2006.

OPCS-4.3 has more appropriate and comprehensive codes in relation to cataract surgery than the older version. However, the new document does not have a complete list of complications and, therefore communication between the coders and the surgical team is still important. Further, uniformity of this system of recording of data is vital for a fair comparison to be made across the UK, NHS hospitals as well as ISTCs.⁵ We believe that standardised data sets and a robust coding system, taking into account pre-operative risk stratification, could potentially provide a solution for accurate analysis and fairer comparison in the future.

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Sir, Alpha antagonists and intraoperative floppy iris syndrome (IFIS) during trabeculectomy

The effect of systemic alpha-1 antagonists on cataract surgery has been topical with the recent description of the intraoperative floppy iris syndrome (IFIS).^{1–7} This is a triad of billowing of iris stroma with intraocular fluid currents, iris prolapse through corneal wounds, and intraoperative progressive pupil constriction.¹ While tamsulosin (FlomaxTM) has been associated with the highest rate of IFIS, other alpha-1 antagonists have also been implicated.^{1,7,8} We would like to share our experience of a case of IFIS encountered during trabeculectomy in a patient taking doxazosin (CarduraTM) for hypertension.

Case report

A 71-year-old Caucasian male underwent right trabeculectomy for uncontrolled normal tension glaucoma. The operation was performed using the Moorfields Safe Surgery System. A fornix-based conjunctival flap and a 5 × 2 mm² rectangular scleral flap was fashioned before inserting an anterior chamber (AC) maintainer via a peripheral corneal tunnel. A 500 μm sclerostomy was made using a Khaw punch. At this point excessive iris prolapse was noted through the sclerostomy. A peripheral iridectomy was performed but there was difficulty repositioning the iris back into the AC. Reducing the flow via the AC maintainer did not help. Switching off the AC maintainer and decompressing the AC allowed reposition of the iris. The scleral flap was secured with releasable sutures before restarting the infusion. At the end of surgery, there was a similar degree of iris prolapse through the AC maintainer wound when this was removed. At this point, IFIS was suspected and a review of the patient's chart found him to be on oral doxazosin for hypertension. Postoperatively,