

## AN AUDIT OF PREOPERATIVE INVESTIGATIONS IN A UROLOGY UNIT

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### **Introduction**

The use of laboratory tests has long been an element of the preoperative evaluation of a patient's fitness for anaesthesia and surgery. Like many established components of our clinical practice, we take for granted the rationale for testing. Sometimes preoperative tests are done out of habit, some performed for fear of litigation, some out of venality and some representing the mindless repetition of established routine. This can lead to unnecessary wastage of resources and considerable inconvenience to patients and health staff (1). Overburdening the laboratories with work may compromise the quality. A study done at NHSL has shown that a large number of preoperative investigations were unnecessary and caused a huge financial burden to the health department (2).

At the same time most of the care that analysts label as waste is not uniformly useless but produces occasional benefits that are judged to be small relative to cost. Even though interventions deemed excessively costly, actually help some patients. So it is easy to understand why apart from self-interest, doctors may provide their patients with wasteful care. Thus the very definition of waste is unclear, and the term is fraught with ethical ambiguity. Yet assuming a socially accepted definition and curtailing waste to slow the growth of spending is a goal worth pursuing aggressively.

### **Objective**

Our aim was to audit our own practice of preoperative investigations and to compare it with the national guidelines laid down by the Sri Lankan College of Anaesthesiologists and endorsed by the Department of Health, Sri Lanka.

### **Method**

We collected data related to preoperative investigations done before operations performed under general or spinal anaesthesia in a urology unit over a period of two months starting from 1 November 2009. The investigations done for the diagnosis and management of the urological disease were excluded. The name of the operation and type of operation, ASA grade of the patient, comorbid factors and investigations done were recorded in a pro-forma sheet in addition to the basic data. The type of operation was categorised as minor, intermediate, major (both major and major plus

categories were included in one group) and complex major (3). After collecting the data each case was compared with the guidelines.

## Results

There were 123 operations done under general or spinal anaesthesia during the study period. Fifty six patients belonged to the ASA I category. Thirty eight patients were in the ASA II category and eight were in the ASA III category. There were 60 major operations, 24 intermediate operations and 39 minor operations.

In 10 patients PT/INR was done as part of preoperative investigation but the indication was not clear. Chest x-ray was done unnecessarily in 10 patients. There was no clear indication for ECG in 27 patients, for haemoglobin in 24 patients and blood sugar level in 22 patients (Table 1). However, 1 patient in this group of 22 patients was found to have an elevated fasting blood sugar (FBS) level and was subjected to further tests for diabetes mellitus. Renal function tests were found to be inappropriate in 4 patients. Echocardiography was inappropriate in one patient only.

**Table 1. Number of inappropriate investigations done**

Investigation	Number considered inappropriate
Chest x-ray	10
ECG	27
Haemoglobin	24
FBS	22
Blood urea/ Serum creatinine	04
PT/ INR	10
Echocardiography	01

## Discussion

Postoperative cardiac complications alone are responsible for one third of perioperative deaths after non-cardiac surgery (4). These lead to increased hospital stay and increased long term mortality rate. Therefore the aims of preoperative assessment are to predict the perioperative risk of morbidity and mortality and to identify patients who may benefit from interventions and those who should avoid surgery. There are other reasons for preoperative investigations too. Some do preoperative investigations to avoid cancellation of cases by anaesthetists. This is due to the heterogeneity of the indications for preoperative investigations by different anaesthetic teams. Some others request unnecessary investigations as a part of practicing defensive medicine. However, we must try to minimise such criteria and try to be scientific and accountable in our practice.

In our study, adherence to national guidelines was more than 75% in all preoperative investigations though there is room for improvement. This is in contrast to the figures of the NHSL where adherence to NICE (National Institute of Clinical Excellence) guidelines was less than 70% in most instances (2). It may be that this study involved only a single unit in a smaller hospital where heterogeneity among decision makers could be minimal. It also shows that clinical practice can vary among units and hospitals and extrapolation of results of one unit or a hospital to all the units in the country could be misleading and inappropriate. Therefore before recommending strategies it is important to conduct audits in different units as much as possible. The younger generation of specialists should be encouraged to perform their audits in their respective units as a routine.

According to the national guidelines, patients with liver disease including suspected alcohol abuse should have the prothrombin time and INR (PT/ INR) as part of the preoperative investigations (5). In Sri Lanka 39% of men in urban areas consume alcohol (6). Many of them may not admit drinking alcohol when questioned. Therefore PT/INR was considered an appropriate preoperative investigation

in patients undergoing intermediate and major operations too. Diabetes mellitus has reached epidemic levels in Sri Lanka and many young people are being diagnosed of having diabetes mellitus. Therefore FBS level may be a reasonable test to be done even in patients less than 40 years old considering the present epidemiological trends. In fact we managed to diagnose diabetes mellitus in one young man and hence doing FBS even in those below 40 years may be justified. Therefore it is clear that guidelines laid down by the Colleges and the department of health should be tailored to suit individual units catering to specific characteristics of their patient population. It would be a sensible idea for surgical and anaesthetic teams to discuss issues faced by the junior staff in relation to published guidelines and modify them according to the ground realities.

### Conclusion

The authorities should not just publish guidelines and let them lay idle in shelves. Guidelines once laid down should be audited in real practice settings and should be modified from time to time. Therefore the department of health should allocate resources for such activities.

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