Correspondence

Macroscopic examination of prostatic specimens

Continuing the debate between Drs Furness, Harnden and Parkinson,^{1,2} the philosophy behind examining all of the resected material from a TURP in a man under 60 years of age and extensively sampling specimens from older patients is twofold:

(1) To detect a carcinoma confined to the prostate in a patient young enough to benefit from a radical prostatectomy or radical radiotherapy.

(2) To detect carcinoma in older patients, who are not candidates for radical therapy, so that we don't look silly when they present symptomatically from their carcinoma shortly after their TURP.

The majority (70%) of prostatic carcinomas arise in the peripheral zone. Prostatic hyperplasia affects the transitional zone and periurethral tissue. TUR specimens consist of tissue from the transitional zone, urethra, periurethral area, bladder neck, and anterior fibromuscular stroma. TUR specimens do not usually contain material from the central or peripheral zones.

If the objective is to detect operable prostate cancer in "young" symptomatic patients, I would suggest that the general practitioner should be instructed to take a blood sample for estimation of the free:bound serum PSA ratio. The urologist in receipt of the result when seeing the patient in clinic can then perform a rectal ultrasound scan and biopsy. If carcinoma is confirmed and computed tomography scanning suggests disease confined to the prostate, the patient can proceed to radical prostatectomy. If the PSA suggests carcinoma, but the biopsy specimens are negative, the pathologist can be alerted on the request form accompanying the TURP specimen and process all the material, as this may be one of the 30% of prostate carcinomas that arise within the transitional zone. If there is no suggestion of carcinoma, the specimen can be processed as for specimens from older patients.

If the objective is not to look silly when missing extensive prostate cancer in TUR specimens, I would suggest examining half of any specimen regardless of its size. It does not make sense to examine larger specimens less thoroughly than small specimens. If a TURP specimen contains three carcinomatous chips, examination of 55% of the specimen gives a 90% probability of detecting one carcinomatous chip.³ Having detected one carcinomatous chip, the rest of the specimen can be processed, if this is going to generate any information that will alter the patient's management.

Before drawing up a sampling protocol it is necessary to know the treatment protocols of your local surgeon and oncologist. If they are seriously looking for T1 and T2 carcinomas in symptomatic patients, it would seem more profitable to "screen" with PSA measurements and biopsy than for pathologists to pore endlessly over trays of slides from TURPs which contain fibromuscular stroma, bladder neck tissue and periurethral tissue.

C E FULLER
Consultant Pathologist,
Salisbury District Hospital,
Salisbury, Wiltshire SP2 8Bf

- 1 Harnden P, Parkinson MC. ACP Broadsheet No. 146. Macroscopic examination of prostatic specimens. *J Clin Pathol* 1995;48:693-700.
- 2 Furness P. Macroscopic examination of prostatic specimens (letter). *J Clin Pathol* 1996;49:187-8.
- 3 Moore GH, Lawse B, Murphy J. Diagnosis of adenocarcinoma in transurethral resectates of the prostate gland. *Am J Pathol* 1986;10:165-9.

Drs Harnden and Parkinson comment:

We thank Dr Fuller for her interest in our article. We were purposefully not didactic in discussing the handling of TURP specimens. An approach was suggested but many justifiable alternatives exist. It is important that sampling policy is defined and agreed between pathologists and urologists, taking into account local practice.

Dr Fuller states that TUR specimens do not usually sample the central or peripheral zone, but in our experience this is not always the case. It is not uncommon to see adipose tissue and seminal vesicles in these specimens, which must imply that the peripheral zone has been sampled. An asymmetrical cavity involving the peripheral zone post-TURP is seen on transrectal ultrasound, in radical specimens and at postmortem examination. Whilst clearly this technique will preferentially sample the periurethral areas, we suspect that the actual areas sampled will depend on the size of the prostate, patient tolerance and the surgical technique adopted. Some surgeons may simply remove enough tissue to relieve obstruction, whereas others may resect as much as possible to prevent "re-growth". In one of our practices (PH), the smaller specimens generally come from smaller prostates and fragments of the peripheral zone are often present, hence the policy of processing all the tissue.

The ratio of alpha-1-antichymotrypsin bound PSA to free PSA does seem to offer promise in the clearer distinction between patients with carcinoma versus hyperplasia,¹ but we await the prospective evaluation of this ratio. It has been suggested that the free:total PSA ratio may be used to detect carcinomas in the PSA range below 4.0 ng/ml but the best threshold remains to be established.² Therefore reliance on this test to dictate complete processing of TUR specimens in men under 60 years of age may not be justified at present.

We note that Dr Fuller agrees with our view that sampling protocols critically depend on local practice and treatment policies. There is a lively debate concerning the most "efficient" or cost effective method of detecting and treating prostatic carcinoma and we await with interest the results of ongoing trials.

- 1 Oesterling JE, Jacobsen SJ, Klee GG, Patterson K, Pironen T, Abrahamson P-A, et al. Free, complexed and total serum prostate specific antigen: the establishment of appropriate reference ranges for their concentrations and ratios. *J Urol* 1995;154:1090-5.
- 2 Bangma CH, Kranse R, Blijenberg BG, Schroder FH. The value of screening tests in the detection of prostate cancer. Part II: Retrospective analysis of free/total prostate-specific analysis ratio, age-specific reference ranges, and PSA density. *Urology* 1995;46:779-84.

Assessment of renal biopsy specimens

We read with interest the article by Furness and Boyd¹ which considered the assessment of renal biopsy specimens by electron microscopy and immunocytochemistry. They at-

tempted to define current practice in reporting renal biopsy specimens for the investigation of renal disease by circulating a questionnaire to 58 participating laboratories in the UK National Renal Pathology External Quality Assessment Scheme.

We were surprised to read that two participating laboratories never requested electron microscopy in the investigation of renal biopsy specimens and would join with the authors in not condoning this practice. We feel it is important to have tissue for electron microscopy in all cases and in our own series² we considered electron microscopy helpful in establishing a diagnosis in 75% of cases assessed. Ultrastructural findings were particularly useful in the investigation of the nephrotic syndrome and in establishing the common diagnosis of minimal change disease. We would, however, support the selective use of electron microscopy in some cases as we found that it made no further contribution to light and immunofluorescence microscopic evaluation in most cases of end stage or tubulointerstitial renal disease.

We would also support the continued use of immunofluorescence in preference to immunoperoxidase in assessing renal biopsy specimens. We find fluorescence more reliable and consistent than peroxidase and having assessed them in parallel for some time we only use immunoperoxidase now in cases where fluorescence is unsuccessful due to lack of glomeruli.

J M PEARSON
L J MCWILLIAM
J D COYNE
A CURRY

Department of Pathological Sciences,
South Manchester University
Hospitals NHS Trust,
Withington Hospital,
Nell Lane,
Manchester M20 8LR

- 1 Furness PN, Boyd S. Electron microscopy and immunocytochemistry in the assessment of renal biopsy specimens: actual and optimal practice. *J Clin Pathol* 1996;49:233-7.
- 2 Pearson JM, McWilliam LJ, Coyne JD, Curry A. Value of electron microscopy in diagnosis of renal disease. *J Clin Pathol* 1994;47:126-8.

Assessment of renal biopsy specimens

We would like to make a few small comments on the paper by Furness and Boyd.¹ We recently presented our experience in Preston with both immunofluorescence and immunoperoxidase techniques on renal biopsy specimens.² Our results supported immunoperoxidase as the routine method for detection of immune complexes, with the caveat that immunofluorescence should also be used for cases of acute renal failure as demonstration of linear IgG by immunoperoxidase in our hands is unreliable. Interestingly, this procedure also fulfills the suggestion made by Furness and Boyd at the end of their paper that both techniques should be used occasionally for quality control purposes.

One useful tip for better immunoperoxidase results is to wash the fresh renal biopsy core immediately in buffered saline for about one hour, followed by fixation in formalin. This greatly reduces the plasma within capillary loops and eradicates the problems illustrated in fig 1 of the paper by Furness and Boyd. Also, during the peroxidase method, two washes at each of the Tris buffer

stages (which must include bovine serum albumin) helps to reduce background staining.

C M THOMAS

A J HOWAT
PO Box 202,
Royal Preston Hospital,
Sharoe Green Lane North,
Fulwood,
Preston PR2 4HG

- 1 Furness PN, Boyd S. Electron microscopy and immunocytochemistry in the assessment of renal biopsy specimens: actual and optimal practice. *J Clin Pathol* 1996;49:233-7.
- 2 Kalra PA, Coward RA, Aguirreburualde M, Howat AJ. An audit of immunoperoxidase versus immunofluorescence in the detection of immune deposits in renal biopsies. *J Pathol* 1996;178:44A.

Microbiology user satisfaction survey

We were pleased to read the study carried out by Dr Morgan to ascertain the views of her laboratory users in Exeter.¹ We performed an almost identical survey in May 1995. A carefully designed user-friendly questionnaire was administered to all the junior medical staff in our hospital who were members of clinical teams that use our services regularly. Staff in specialties that used our services infrequently, such as anaesthetics, radiology, psychiatry, and biochemistry, were not included. In total, 120 questionnaires were sent out. As in Dr Morgan's study, our questionnaire sought views on turnaround times, quality of reports, accessibility to and quality of microbiological consultations during normal working hours and "on-call", present and future requirements from the service and lastly, the infection control service. Completed questionnaires were made anonymous to ensure genuine replies. The response rate was 54% and nearly all the questionnaires were suitable for analysis.

It was rewarding that the overall appreciation of the quality of microbiology laboratory services offered was good. This included the majority of staff being more than satisfied with the accessibility to and quality of consultations (81% and 87%, respectively), turnaround times for results (77%), the comprehensiveness of technical results (86%), and amount and quality of clinical guidance/interpretation (75% and 84%, respectively) contained in our laboratory reports. Both access to authorised results and the facility for requesting investigations via ward-based computer terminals (in that order of priority) were identified as areas for further development. A hospital-wide development of information technology has been in progress and will fulfil those needs in the very near future. It was important to be reminded that our constant clinical profile at ward level is much valued. The infection control service received a satisfactory score from the majority of its users.

We believe that this survey was a useful exercise in allowing us to establish a base-line from which changes can be made. It has enabled us to examine users' needs closely, identify areas of work that are performed well, plan ahead to improve specific aspects of the service, and reassess our position in the near future. In the present market orientated health service environment, the beneficial effects of positive feedback on all laboratory staff from such a study in terms of boosting morale and encouragement should not be

underestimated. Also, re-auditing after a period of time and implementing changes is very important if the full benefits from this exercise are to be enjoyed. We would recommend this practice to other laboratories.

P Y C LEE
R E HOLLIMAN

Public Health Laboratory,
St Georges Hospital,
London SW17 0QT

- 1 Morgan MS. Perceptions of a medical microbiology service: a survey of laboratory users. *J Clin Pathol* 1995;48:915-18.

Dr Morgan comments:

I was glad to find that Drs Lee and Holliman found similar results in the audit that they did of the views of hospital doctors, and that microbiologists with a high clinical profile are in demand from clinicians. Despite being extremely active clinically at Exeter I was most surprised that even more clinical involvement was requested, a demand that resulted immediately in a microbiologist attending five designated ward rounds in three additional specialties per week.

The extra dimensions of quality that results from the 24 hour input of a medical microbiologist on site were regarded as essential by our customers. We are now capitalising upon this in competition with the private sector for our fund holding contracts.

Unlike Drs Lee and Holliman, however, I found that the fact that only 8.5% of my respondents chose to remain anonymous was particularly helpful, allowing me to discuss controversial points raised directly and clear up some fundamental misconceptions. An example of the latter was the apparent omission of the laboratory to report locorten and sofradex sensitivities in isolates from ear swabs.

Infection control issues were addressed in my survey too and the survey was similarly highly rated by both hospital doctors and general practitioners.

Finally, as Drs Lee and Holliman noted, completion of the audit loop after improvements have been carried out is essential. Indeed, a follow up audit is in progress with an 83% response rate to date. A preliminary analysis shows the quality of service has indeed been recognised as "improved" by 89% of the respondents to date. Two, who felt that there was "no improvement", had actually given us a score of 10 out of 10 ("could not be better").

Such wonderfully positive feedback from customers can boost staff morale considerably and indeed has done so.

Book reviews

If you wish to order or require further information regarding the titles reviewed here, please write to or telephone the BMJ Bookshop, PO Box 295, London WC1H 9JR. Tel: 0171 383 6244; fax: 0171 383 6662. Book are supplied post-free in the UK and for BFPO addresses. Overseas customers should add 15% for postage and packing. Payment can be made by cheque in Sterling drawn on a UK bank or by credit card (Mas-

terCard, Visa or American Express) stating card number, expiry date, and full name. (The price and availability are occasionally subject to revision by the Publishers.)

MCQ's in Clinical Pathology. Bint AJ, Burt AD, Laker MF, Reid MM. (Pp 202; £8.95.) WB Saunders. 1995. ISBN 0-7020-1782-5.

MCQ's enable knowledge of a wide range of topics to be assessed consistently and rapidly. Many collections of MCQ's have been published but those dealing with pathology usually cover only one of its disciplines. A valuable feature of this book, the authors of which are all connected with the Newcastle Medical School, is that it embraces topics from all the major pathology specialties.

This book should enable undergraduates to identify gaps in their knowledge and understanding of pathology, and to obtain practice at responding to MCQ's. Being clinically orientated, it could also be useful to postgraduate students studying for the MRCP and FRCS. The first 76 pages contain 300 questions, each consisting of a stem followed by five completions that are either true or false. They are arranged in groups of 75 in sections devoted to medical microbiology, histopathology, clinical biochemistry, and haematology. Virology questions are included in the microbiology section and immunology questions in the haematology section. Over the following 119 pages, the answers are provided together with brief explanatory comments.

The presentation and content of questions and answers is very acceptable, but it is disappointing that no questions of the five-choice association type are included because they can be more searching. The common problems of ambiguity in the wording of the questions or of posing questions that cannot be answered unequivocally were rarely detected and the authors are to be congratulated in this regard.

The quality of the publication is pleasing with clear print on smooth matt paper and a soft cover with durable binding.

F V FLYNN

Problems in Medical Microbiology. Holton J, Brink N, Chiodini P, Bendall R. (Pp 80; £14.95.) Blackwell Science Ltd. 1995. ISBN 0-632-03834-9.

At last, a problem orientated study book in medical microbiology. Containing 80 clinical cases drawn from all four sub-disciplines, this text will provide a very useful addition to the texts available to undergraduates.

The cases are well written and realistic, covering a wide spectrum of clinical infectious conditions reflecting modern clinical microbiological practice. The follow up questions probe the students' understanding of clinical and laboratory aspects of the clinical problem. The answers are accompanied by comprehensive explanation allowing the student to learn the principles of microbiology in a clinical context. Each case is well illustrated with clinical photographs, x ray films, photomicrographs, electron microscopy, and plates. There are many excellent photographs, notably the photo- and electron micrographs. The illustrations of agar plates are untidy, however, with labels and laboratory marks that have not been removed prior to photography and this detracts from the overall impression of the book.

The problem orientated approach will appeal in the light of the changes occurring in