

ferred to nitrocellulose filters and hybridised with a nick-translated Jh probe, which was kindly provided by Dr TH Rabbitts (Cambridge). A unique rearranged band could be detected on autoradiography.

Immunofluorescence studies in our patient indicated that lambda light chains were produced. Because monoclonal immunoglobulin seems to be present in the cytoplasm of plasma cells in nearly all patients studied by immunocytochemical methods,³ the most likely mechanisms to explain non-secretory myeloma could be a defective secretory system of the cell, or an abnormal immunoglobulin structure which is not capable of being transmitted further along the secretory pathway.

In our patient detection of heavy gene rearrangement suggests that the failure of heavy chain expression could result from dysfunctionally rearranged genes, or because of the presence of an abnormal mRNA.

Among light chains producing non-secretory myeloma, a preponderance of kappa type has been pointed out, so the lambda type is rare and to the best of our knowledge only two such patients have been described previously.^{4,5}

Although it has been reported that non-secretory myeloma has a better prognosis than secretory myeloma,^{2,3} our patient died quickly. We attribute the poor response to chemotherapy and short survival to diagnosis at an advanced stage, even in an initial leukaemic phase which is very unusual.¹

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References

- 1 Kyle RA. Multiple myeloma. Review of 869 cases. *Mayo Clin Proc* 1975;50:29-40.
- 2 Dreicer R, Alexanian R. Nonsecretory multiple myeloma. *Am J Hematol* 1982;13:313-18.
- 3 Smith DB, Harris M, Gowland E, Chang J, Scarffe JH. Non-secretory multiple myeloma: a report of 13 cases with a review of the literature. *Hematol Oncol* 1986;4:307-13.
- 4 Pinkus GS, Said JW. Specific identification of intracellular immunoglobulin in paraffin sections of multiple myeloma and macroglobulinemia using an immunoperoxidase technique. *Am J Pathol* 1977;87:47-58.
- 5 Pelosio A, Di Biagio T, Franchi F. An unusual case of non secretory multiple myeloma with intracellular lambda chains. *Haematologica* 1981;66:223-7.

Matters arising

Screening for bacteriuria

Doran and Kensit recently reported the results of a study on screening for bacteriuria using a dipstick read by Clinitek 200.¹

We recently conducted a similar study on 1000 consecutive urine specimens randomly submitted to this laboratory. The same four tests—namely, leucocyte esterase, nitrite test, blood, and protein on the Ames 10SG strips—were used and read by Clinitek 200. All urines were tested in parallel with the methods normally used for enumeration of leucocytes by microscopical examination and quantitative culture for bacteria. At this time Kova slides with grids (ICL Scientific) were used to detect pyuria defined as the presence of at least 10 white cells per cubic mm. Semiquantitative bacterial counts were made by impression of bacteriurist strips (MAST Laboratories) on to MacConkey agar, and inoculation of urine using a 0.05 ml calibrated loop on to horse blood agar and incubated for 18-24 hours at 37°C before examination for discrete colonies.

Culture was defined as negative if less than 10⁵ organisms/ml and positive if 10⁵ organisms/ml or greater, in either pure or mixed cultures. Urines with borderline counts of 10⁴-10⁵ organisms/ml were not assessed.

A positive dipstick result was defined as one or more positive reactions with tests for leucocyte esterase, nitrite, blood and protein. A negative result was one in which all four tests were negative.

We used the formulae of Galen and Gambino² to obtain statistical results.

For the dipstick screening method, sensitivity was 80.4% and specificity 97.8%. Predictive values for a positive result were 83.7% and for a negative result 97.2% when all four tests were used in combination. The overall false negative rate was 1%.

For our largely asymptomatic population, these figures suggest that the method could be used as a routine screen, and we suggest that those urines that prove negative for the four dipstick tests need not be examined further for leucocytes and bacteria unless specifically requested by the clinician in the case of problem patients. Consequently our workload would be reduced by 36%. Similar conclusions were reached by Boreland and Stoker³ and Lowe.⁴

We found that the urine screening procedure was not applicable to all patients. The level of bacteriuria must be modified in

some cases as small numbers of bacteria can be associated with urinary tract infection and have been reported.⁵ Therefore, all urines from symptomatic patients and specimens of suprapubic aspiration and catheter urine would be cultured and microscopy performed without screening.

We agree with the comments made by the authors that, used as a screening method, the dipstick is more expensive than microscopy and culture (£0.14 as opposed to about £0.90 per specimen) and we found no savings in technician time.

We found that the incorporation of 10 biochemical tests in the one dipstick was excessive for investigations in this department and feel that a strip adapted to bacteriological screening using the four variables of leucocyte esterase, nitrate, blood and protein read by Clinitek 200 would be more cost effective as a urine screening procedure.

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References

- 1 Doran HM, Kensit JG. Screening for bacteriuria with Clinitek 200. *J Clin Pathol* 1988;41:1127-9.
- 2 Galen RS, Gambino SR. *Beyond normality: the predictive value and efficiency of medical diagnoses*. London: John Wiley & Sons, 1976.
- 3 Boreland PC, Stoker M. Dipstick analysis for screening of paediatric urine. *J Clin Pathol* 1986;39:1360-2.
- 4 Lowe PA. Chemical screening and prediction of bacteriuria—a new approach. *Med Lab Sci* 1985;43:28-33.
- 5 Stamm WE, Wagner KF, Amsell R. Causes of the acute urethral syndrome in women. *N Engl J Med* 1980;303:409-15.

False negative results with benzodiazepine screening test

The recently updated ACP Broadsheet by Widdop is an excellent commentary on a range of simple tests to detect poisoning.¹ The author mentions benzodiazepines as currently the most common cause of drug induced coma and names immunoassay and TLC, following hydrolysis with acid and heat, as routine screening procedures. For completeness, we would like to emphasise that, while indeed, 1,4-benzodiazepines are detectable using either assay procedure, the