Correspondence

The value of Toxoplasma specific IgA in diagnosis

We agree with the conclusions of Takahashi and Rossi[1] that the sensitivity of their immunosorbent agglutination assay (ISAGA) makes it an ideal screening test and that detection of IgA is a useful indicator of early infection. However, the relative usefulness of IgA and IgM has not been considered as all of the acute toxoplasmosis serum samples tested were positive for both.

In their paper only 51 patients with acute toxoplasmosis were tested. All were IgM positive but none had documented duration of illness.[1] We have developed a toxoplasma specific IgA-ISAGA based on an in-house IgE-ISAGA.[2] Our assay differs in that a semiquantitative result is obtained by titrating the amount of antigen used not the patient serum. Our IgA-ISAGA has been found to be highly specific, with only one in 583 (0·17%) false positive results. Using this assay, 120 serum samples from 68 patients with acute toxoplasmosis with known duration of symptoms have been tested. All except three contained toxoplasma specific IgA. As found previously, peak levels of specific IgA were detected after approximately two months.[1,3] Serum samples which were IgA negative were all taken less than two weeks[2] and 1·4 months[1] after the onset of symptoms. Two of these samples had detectable IgM (Toxo-M ISAGA, BioMerieux, France) one of which was positive; the third was IgM negative. Positive reactions were detected up to about 11 months, the longest duration sample available. In contrast, 25 of 120 were Toxonostika ELISA-IgM (Organon Teknika, Cambridge, UK) negative and seven of 25 were also Toxo-M ISAGA negative. This suggests that specific IgA is in fact a less specific indicator of acute infection than specific IgM. In a group of 11 pregnant women all IgM positive IgA positive reactions were recorded in 37 of 38 serum samples, confirming that IgA may not be advantageous over IgM in acquired infection. However, IgA is more sensitive than IgM as an indicator of congenital toxoplasmosis and is therefore diagnostic when detected in fetal or neonatal samples.[3]

Persistence of specific IgM also causes problems in diagnosis of non-pregnant individuals. In patients[2] with persistent IgM for three and five years, respectively, specific IgA was negative in one; in the second specific IgA fell during the five year period but remained borderline positive even after five years. This confirms previous indications that, like IgM, persistence of IgA appears to be variable.[3]

In our experience, detection of specific IgE is a better indicator of acute infection than either specific IgM or IgA.[2] Therefore measurement of specific IgA should be used as an adjunct to established techniques and not replace them.

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Systemic absorption of vancomycin

Further to the recent marked upsurge in the United Kingdom of *Clostridium difficile* infections,[1] we report our findings from a recent study of systemic absorption of vancomycin administered orally in 10 patients with bacteriologically confirmed pseudomembranous colitis (PMC). The patients ranged in age from 14 to 81 years. Renal function varied between normal and severely impaired. Most patients were treated with oral vancomycin in a dosage regimen of 125 mg four times daily for 10 days but in one case of relapsing disease the patient was given oral vancomycin 500 mg four times daily in two five day pulses separated by an interval of two days. Vancomycin serum concentrations were measured by immunoassay, the first five by the enzyme multiplication immunoassay technique (EMIT) and the remainder by TDX. It should be noted that results obtained with the TDX may be artificially high as it also detects vancomycin crystal line degradation product 1, which may accumulate in patients with impaired renal function. In seven of the 10 patients the vancomycin concentrations were unrecordably low at <1 mg/l. This included one patient with mildly impaired renal function (urea 13·0 mmol/l, creatinine 209 μmol/l) and the patient being treated with 500 mg four times daily vancomycin pulses mentioned above. Four patients had recordable serum vancomycin concentrations ranging from 1·0 to 3·1 mg/l. In only one of these patients was renal function impaired (table).

These findings confirm that treatment of PMC with oral vancomycin may result in some absorption of the drug through the inflamed colonic mucosa,[2,3] with four of these 10 patients showing detectable concentrations in their serum.

However, with the usual dosage of 125 mg four times daily, the resulting concentrations are generally low and are unlikely to reach potentially toxic concentrations (>50 mg/l), even in patients with moderate to severe renal impairment.[4] Routine monitoring of serum vancomycin concentrations is therefore not generally indicated in patients with PMC being treated with oral vancomycin, except perhaps when larger doses than normal are being used (for example, 500 mg four times daily) in patients with severe renal failure, when there may be a small risk of accumulation of absorbed drug.

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Serum vancomycin concentrations in patients with bacteriologically confirmed PMC

Patient No.	Day of therapy	Vancomycin concentration (mg/l)	Day of therapy	Urea	Sodium	Postassium	Creatinine
1	2	3·1	0	8·0	148	3·1	107
	4	<1					
	13	<1	12	5·4	143	3·8	102
2	4	1·0	6	1·8	135	3·4	55
3	6	2·5	5	7·1	129	3·7	84
	8	1·9	8	6·3	135	3·3	75
4	10	1·6*	8	19·2	132	5·4	1243

* This result was obtained with the TDX and may be elevated for the reasons discussed.

A rapid and safe method to fix India ink on specimen resection margins

India ink is a useful aid to the evaluation of specimen resection margins. The ink is usually applied with a brush before sectioning and allowed to dry, after blotting off any excess, for a few minutes. Alternatively, the inked specimen may be immediately immersed in Bouin's solution for a short time (20–30 seconds) to fix the ink to the surfaces.[1-4]

With all specimens, including large specimens (for example, breast or neck dissections), fresh tissue for special processing or frozen sections, it is possible to reduce the time required to fix the ink on the specimen before freezing or further sectioning by using Bouin's solution.

Problems may be encountered by the routine use of large quantities of Bouin's solution because of its content of picric acid (2,4,6-trinitrophenol). This chemical has been used as an explosive and also as a component of matches, in the leather industry, and as a chemical reagent. Because of its extensive use, mostly military in the past, it is now considered to be a potential contaminant of the environment, mostly of the groundwater.[5] Exposure to picric acid or its salt is primarily through inhalation of dust or through skin contact causing a sensitisation dermatitis. The latter situation may occur in a histopathology laboratory dealing with the commercially available picric acid as a fixative. To reduce the use of this toxic chemical and to limit it to essential needs, a different solution to fix the India ink on specimens has been developed and used. It is composed of 40% formalin (10 ml), glacial acetic acid (5 ml) and distilled water (85 ml). The pH of this solution ranges from 2·69 when fresh and unused to 2·78 after one week of use.