thrombocytopenia in severe leptospirosis, as shown by the high titres of surface bound immunoglobulin and C3d, the response to both pulse methyl prednisolone and hydrocortisone, and the prompt fall in platelet count after discontinuing the methyl prednisolone. Although both penicillin and heparin have been reported to cause immune mediated thrombocytopenia, the patient was thrombocytopenic before taking either drug, and both dose of heparin used and the time course of the thrombocytopenia argue against a drug mediated thrombocytopenia.³

A DAVENPORT*  
FP RUGMAN†  
MJ DESMOND‡  
R GANTA‡  
Departments of *Renal Medicine,  
†Haematology, and ‡Intensive Care,  
Royal Liverpool Hospital,  
Preston Street,  
Liverpool L7 8XP.

References


Non-Hodgkin’s lymphoma and Hodgkin’s lymphoma in the same patient

A 66 year old white man was referred with a subcutaneous swelling behind the right mid-thigh that had been present for one year. The indurated and oedematous swelling was resected. Histological assessment showed that it was non-Hodgkin’s lymphoma (NHL)—small lymphocyte type (fig 1a). There was no evidence of lymphoma elsewhere. Peripheral blood cell marker tests showed no conclusive evidence of monoclonal B cells. No other treatment was given; he was followed up three monthly. After 14 months of good health he reported with a four week history of severe diarrhoea, anorexia, and weight loss. He was dehydrated and had an upper abdominal mass separate from an enlarged spleen and a mass of enlarged lymph nodes in the right iliac fossa. The right leg was oedematous. An ultrasound scan showed infiltration in the liver and para-aortic, mesenteric, and pelvic adenopathy. The only laboratory abnormalities were a normocytic anaemia of 8.6 g/dl with an erythrocyte sedimentation rate (ESR) of 92 mm in one hour, hypoalbuminaemia, and a grossly raised alkaline phosphatase activity. There was variable expression of Tcell receptors on peripheral blood mononuclear cells with a CD4:CD8 ratio of 1 and increased expression of CD25. There was no evidence of B cell monoclonality.

Surprisingly, a node biopsy specimen showed a typical picture of lymphocyte depleted Hodgkin’s disease (HD) (fig 1b). After chemotherapy there was no detectable bulk disease at three months. Repeated endoscopic biopsy specimens have shown chronic inflammatory changes only and his bowel symptoms slowly resolved. He remains on follow up one year later.

The term discordant lymphoma has been reserved for those cases with different histological types occurring in different anatomical sites. Kim et al used the term composite lymphoma to include those cases with both Hodgkin’s disease and non-Hodgkin’s lymphoma within a single anatomical site.¹ Patients with discordant lymphoma with HD and NHL are well recognised, most often with NHL following treatment for Hodgkin’s disease. Carrato et al found five instances of Hodgkin’s disease developing after treatment for NHL from 2019 documented lymphoma cases with a latent period of between five to 23 years.² Lymphocyte depleted Hodgkin’s disease was not found in this group. The pathogenesis of Hodgkin’s disease is unclear and both T and B cells have been implicated by various workers. A proliferation of B cells which might provoke a T cell reaction eventually predisposing to Hodgkin’s disease has been reported³ in cases of nodular Hodgkin’s paragranulomas, but our case was firmly diagnosed as NHL. Viral infection causing a change in T cell surface antigen expression may produce a chronic immune reaction leading to the appearance of neoplastic reticulum cells.⁴ We found variability of T cell antigen expression, evidence of interleukin 2 receptor expression, and disturbance of the CD4:CD8 ratio during the second illness which may have been due to immunological response to the disease rather than a residual feature of a T cell reaction before the development of Hodgkin’s disease. It is difficult to ascribe the development of Hodgkin’s disease after treated NHL to the treatment itself because many more cases would be expected. It is even less common to find this sequence of events without intervening treatment. In this unusual case it seems that either the appearance of the two disorders was purely coincidental or that the lesion with clear features of NHL represented a stage in the development of the eventual Hodgkin’s disease. It was interesting to find that the only peripheral nodal disease at the presentation of Hodgkin’s disease was in the
immediate drainage area of the initial lesion.

Letters to the Editor

immediate drainage area of the initial lesion.

NG FLANAGAN
F DONALD
DS HARRY
JC RIDWAY
Department of Haematology,
Victoria Hospital,
Blackpool FY5 2PG

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Assessment of rapid method for identifying
Escherichia coli

Most pathogenic enterobacteria identified in medical microbiology laboratories are
Escherichia coli. If a simple, inexpensive, and rapid yet reliable method for identifying
these isolates was available it would greatly improve efficiency. A kit recently introduced
by API-bioMérieux (UK) Ltd, Rapidec coli, seemed to fulfill these requirements and we
assessed its reliability based on results for 1000 E coli and 250 other enterobacteria
isolated from urinary tract infections.

The Rapidec coli kits were supplied by the manufacturers (API-bioMérieux (UK) Ltd
Basingstoke). Each organism is tested using four cups designated C, S, 1 and 2; C is an
opacity standard for the bacterial suspension which is prepared in S while 1 and 2 contain
media for the detection of β glucuronidase and β galactosidase, respectively. The addi-
tion of James reagent (API-bioMérieux (UK) Ltd) to cupule 2 also detects indole
production. Five groups of four cups are combined on a plastic strip and any sets of
four cups not required can be cut off, refrigerated, and used the following day. Sterile
distilled water is added to cupules C and S and the growth from two to three colonies of the organism to be tested is
homogenised in cupules S to the same opacity as the standard; 50 μl of the suspen-
sion are then transferred to each of the cupules 1 and 2. After incubation at 37° for
two hours a yellow colour in cupules 1 and 2
indicates a positive test for β glucuronidase and
β galactosidase, respectively; in negative
tests the suspension remains colourless.

After reading these results one drop of James
reagent is added to cupule 2 in which the
development of a red colour is positive for
indole production. If all three tests are
positive the organism is regarded as E coli,
with only two tests positive the organism
may be E coli but further tests are required
(indeterminate) and with only one positive or
all negative the organism is not E coli (non-
E coli).

The 1250 isolates were designated as E coli
or non-E coli on the basis of standard
biochemical tests1: the tests used included
indole, MR/VP, citrate, malonate/PPA, urea,
glucose, lactose and motility. If there was
any doubt about the designation of any
isolate, or this differed from that by Rapidec
coli, then it was identified by API 20E as were
all isolates designated as indeterminate by
Rapidec coli; in these cases the definitive
designation was determined by the API 20E
result.

One thousand isolates were designated
E coli by biochemistry or API 20E and 250
as non-E coli (Citrobacter, Enterobacter,
Hafnia, Klebsiella, Morganella, Proteus,
Providencia and Serratia); these designa-
tions, in relation to those derived from the
Rapidec coli tests, are shown in the table. A
designation of E coli by Rapidec coli was
always correct. Three isolates were incor-
crrectly designated non-E coli and in each case
this was because the indole test was negative
with Rapidec coli whereas it was positive by
the standard method and by API 20E; two
isolates were designated as indeterminate for
the same reason. Of the 38 non-E coli
isolates designated indeterminate by Rapidec
coli, 25 were Klebsiella oxytoca.

Rapidec coli was extremely easy and
quick, both to set up and to read (average
two minutes for an isolate). Used as a means
of eliminating about 90% of E coli from
more costly and time consuming identify-
tion procedures, it was absolutely reliable
with these urinary enterobacteria, and by
giving a result in two hours it caused no delay
in obtaining a result for those isolates requir-
ing further identification. The savings to be
made in any particular laboratory, by incor-
porating Rapidec coli in an identification
procedure, would depend on its cost in terms
of time and material relative to that of the
usual identification method and on the propor-
tion of enterobacteria routinely identified
as E coli. For example, if the cost of Rapidec
coli is 20% of the usual method then savings
would be made once the proportion of E coli
exceeded 22%; at 50% and 90% E coli
the savings would be 25% and over 60%,
respectively.

Nucleolar organiser regions and proliferative
index in glandular and squamous carcinomas
of the cervix

Little is known about the pathogenesis of
adenocarcinoma and adenosquamous carci-
oma of the cervix. The frequent associ-
ation of adenocarcinoma in situ with
squamous intraepithelial and invasive neo-
plasia, and the occurrence of mixed adeno-
squamous lesions, both in situ and invasive,
suggests the possibility of common aetiologi-
ical factors between glandular and squamous
tumours. Although some larger studies have
found no difference in survival

Table Reliability of Rapidec coli designations of enterobacteria from urinary tract
infections

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<thead>
<tr>
<th>Designation by Biochemistry1/ API 20E</th>
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*Based on Cowan1.

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N G Flanagan, F Donald, D S Harry and J C Ridway

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