Short reports

**Table 1. Professional and clinical characteristics of the three residents with Gilbert’s syndrome**

<table>
<thead>
<tr>
<th>Case</th>
<th>Sex</th>
<th>Age (years)</th>
<th>Speciality</th>
<th>No. of days on duty</th>
<th>Serum bilirubin* Peak value (µM L⁻¹)</th>
<th>Basal value (µM L⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>27</td>
<td>Internal medicine</td>
<td>10th</td>
<td>35.7 (28.9)</td>
<td>22.1 (15.3)</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>26</td>
<td>Intensive medicine</td>
<td>5th</td>
<td>40.8 (35.7)</td>
<td>23.8 (16.8)</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>26</td>
<td>Haematology</td>
<td>1st</td>
<td>49.3 (38.9)</td>
<td>20.4 (15.1)</td>
</tr>
</tbody>
</table>

(*) Normal value range: 2–18 µM L⁻¹. Numbers in parentheses indicate the value of unconjugated bilirubinaemia. Neither hepatomegaly or liver abnormal test was detected in these subjects.

lesser degree in previous years.² Some of this stress occurs during service in the emergency ward. Working conditions of medical residents when they are on-call include sleep deprivation, inordinate and inflexible time demands, excessive workload, fatigue and lack of appetite for extensive responsibilities and obligations. These problems are recognized as being factors that result in raised bilirubin levels in subjects with previously undiagnosed Gilbert’s syndrome. Likewise, other metabolic disturbances have been observed in response to stressful stimuli. Recently Coeck et al.³ reported raised serum levels of cortisol and ACTH in a group of internal medicine residents at the end of their on-call period. Furthermore, it is well documented that some junior doctors cannot endure these stress factors and they have a negative impact on their residency training, frequently being responsible for impaired efficiency and performance.⁴

We feel that these cases, demonstrate a link between residency programmes and previously undetected Gilbert’s syndrome, and that this disorder may be one of multiple abnormal responses to the stresses of residency training. Strategies for identification, prevention and reduction of stress are necessary for a successful adaptation to residency training programmes.

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REFERENCES


**Plaster checks: a waste of resources?**

The majority of patients attending for a plaster check the day after application gain nothing from their visit. The aim of this study was to ascertain if there was a group of injuries or cast types that rarely received any intervention at the attendance and therefore reduce needless visits.

Details of 250 consecutive patients having a cast applied by plaster technicians or nurses were entered into a log book with details of their plaster, who applied it and the nature of any alterations made at the plaster check the following day. The accident and emergency (A&E) records were retrieved 1 month after the study to identify those who had attended outside their appointment time and any comments relating to their visit. In addition a postal questionnaire was sent to arrive 5 days after application of the plaster to assess the patients' perceptions.

Excluding the 14 patients who had follow-up arranged elsewhere, 89% returned for their check and 24% (51) had alterations made — 18 patient had plasters changed, 17 had them reinforced, 12 had them trimmed and four slabs were removed and replaced with a bandage at the patients’ request. Alterations were made to all types of cast whether applied for soft tissue injuries or a variety of fractures — of the plasters changed there was an equal
proportion of arm and leg casts. However, lower limb casts were more likely to need reinforcing (13 out of 17). All plasters that were trimmed were on the upper limb. Two plaster technicians were responsible for 52% of the casts applied and 41% of those requiring alteration. No plaster was altered because of signs or symptoms of neurovascular compression. Of the 159 who had no change made at their attendance, six patients returned prior to their clinic appointments for alterations, three requested a replacement having removed their own forearm slabs after a week. Two plasters were replaced when broken and one was trimmed. Only two patients of the 26 who did not attend for a plaster check returned with problems, one requiring replacement of a broken cast and one who returned with persistent pain 3 days after manipulation of her Colles fracture but who required no alteration.

The postal questionnaire had a 72% response rate and of these, 31% remembered being given additional advice — however, only six of the 30 who reported subsequent problems with the cast had returned for changes to be made. Returning for the check was stated as inconvenient by 16% and worthwhile by 82%.

In view of the 24% alteration rate it will remain this department’s practice to offer a plaster check to all those having a plaster applied as, unfortunately, patients from all groups return with a plethora of problems.

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Is rapid myoglobin measurement of diagnostic value in the emergency presentation of non-traumatic chest pain?

As there is an established treatment for acute myocardial infarction (AMI) in the form of thrombolytic therapy, early diagnosis is essential. In cases presenting to the accident and emergency (A&E) department, the diagnosis of AMI is not always immediately obvious. A rapid, sensitive and specific test for the early diagnosis of AMI could prove useful as a guide to appropriate referral and subsequent therapy.

Myoglobin is known to be released up to four hours earlier than both creatine kinase (CK) and CK-MB following AMI, with peak levels being achieved up to 14 hours earlier. There is now available an immunoturbidimetric method to measure the myoglobin concentration in serum or plasma within minutes. We undertook to evaluate, retrospectively, the usefulness of this assay in the acute situation.

The study was carried out on patients presenting to the A&E Department of the Western Infirmary, Glasgow, with non-traumatic chest pain. The patients were either general practitioner-referred, or self-referred.

A total of 136 patients presenting with chest pain were studied: 73 males and 63 females. The age range was 16 to 82 years, the median age was 58 years. The A&E officer attending the patient took the blood sample for analysis as soon as practicable (within 1 h of presentation). Retrospective analysis was carried out on each sample for myoglobin, total CK and CK-MB if the CK was found to be greater than 100 μgL⁻¹.

Myoglobin concentration was determined using the Behring Turbiquant Myoglobin assay system (Behringwerke AG Diagnostica, Marburg, Germany) as recommended by the manufacturer. This assay, which may be used on- or off-site, is a rapid, particle enhanced assay based on the reaction between the myoglobin present in the sample and anti-myoglobin antibodies coupled to polystyrene particles. The resultant increase in turbidity is measured photometrically. The measuring range of the assay is 50–650 μgL⁻¹.

Of the 136 patients involved in the study, 32 patients were discharged directly from the A&E department without subsequent hospital follow-up. Although none of the patients discharged directly had either a raised serum myoglobin concentration or a raised CK-MB ratio, or were subsequently readmitted to the Western Infirmary with a related complaint, this does not completely exclude the possibility of AMI in any of those patients.

A total of 104 patients were referred for admission and further investigation either to the coronary care unit, or to the general medical wards. Of the patients admitted, 27 were diagnosed as having sustained an AMI either at presentation, on clinical and electrocardiographic evidence, or on subsequent investigation. In all cases, AMI was confirmed by a raised CK-MB ratio (>5.9). The remaining 77 patients had an AMI excluded using the same criteria.

Myoglobin concentration, on admission, was found to be significantly elevated (>100 μgL⁻¹) in 14 of the 27 AMI patients as compared with 11 patients with a raised total CK and CK-MB ratio.
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