Commentary: Some legal aspects arising from the study

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In this commentary I will give a legal context to the paper by McManus and highlight the main issues of law that arise from its findings. In doing this, I have focused on two key conclusions of the study—namely, that in 1996-7 both male applicants and applicants from ethnic minority groups were disadvantaged in their applications to medical schools.

The starting point is that, in deciding whether to admit a candidate, it is unlawful for universities to discriminate on grounds of sex or race. This follows from section 22 of the Sex Discrimination Act 1975 and section 17 of the Race Relations Act 1976. The prohibition on sex discrimination applies to treatment that disadvantages men just as much as it does to treatment that is unfavourable towards women. The principles underlying discrimination and the steps entailed in proving or defending a claim under each act are largely identical.

Statistical differentials such as those revealed by this study are often used to form the basis of a discrimination claim. They may be used to raise a prima facie case, which it will then be for the relevant institution to defend. Such a claim may take one of two forms: direct or indirect discrimination. The distinction is important because, generally, direct discrimination, in contrast to indirect discrimination, is not capable of justification. Direct discrimination arises where but for a person's sex or race he or she would be treated more favourably. By contrast, indirect discrimination arises not when a person's sex or race is the determinative factor but when a condition or standard is applied that is more difficult for a person of one sex or of a certain race to satisfy.

These statistics are not likely to be indicative of direct discrimination. They are much more likely to raise issues of indirect discrimination. A person bringing such a claim would have to point to a condition or criterion applied by medical schools that is less easily satisfied by men or by applicants from ethnic minority groups and which thereby leads to men or ethnic minority groups being disadvantaged. The relevant university would then have to show that the condition or criterion at issue was objectively justified. The courts have held that such justification requires an objective balance between the discriminatory effect of the condition and the reasonable needs of the party who applies the condition. For example, an applicant from an ethnic minority group might be able to show that medical schools placed significant weight on A level predictions when deciding whether to offer places. The applicant may then go on to prove that applicants from ethnic minority groups received lower predictions than white applicants. It would then be for the medical school concerned to justify the use of A level predictions as an entry criterion.

These are the potential legal issues that arise from the conclusions of this study. Although, as I have noted, statistics of this nature can and do form the basis of discrimination claims, the limits on their evidential value must be borne in mind. The weight of this study in indicating discrimination may well be altered by placing it in the context of a study covering a greater number of years.

Importance of bruising associated with paediatric fractures: prospective observational study

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Few data are published on the bruising seen in association with paediatric fractures. What little can be found is set in the context of non-accidental injury. Differing opinions about the importance of bruising have been expressed by those working on medicolegal cases.[1–3] The force necessary to fracture a normal bone is thought to result invariably in external evidence of trauma.[1] The absence of such bruising has been taken to imply that minimal force was required to produce the fracture—that is, the fracture occurred because of metabolic bone disease or osteogenesis imperfecta.[2 3]

Subjects, methods, and results

We prospectively assessed 93 acute fractures in 88 normal children (49 boys and 39 girls; age range 12 months to 13 years 11 months) at presentation and before definitive treatment, looking for evidence of bruising around the fracture site. The prevalence of bruising at initial presentation and its incidence during early follow up was evaluated in subsets of fractures grouped according to displacement and extent of soft tissue cover. All the children were seen within 24 hours of injury.

There were 17 undisplaced, 46 displaced, and 30 angulated ($>15°$) fractures. Simple falls accounted for 70 fractures (15 undisplaced, 25 angulated, 30 displaced); 23 fractures were the result of falls from heights (2 undisplaced, 5 angulated, 16 displaced). Bruising was seen at initial presentation in 8 fractures (9%), which were either displaced or superficially located, or both. Bruising was not present at initial presentation in undisplaced fractures or those well covered by soft tissues.

Seventy three fractures were examined at the time of primary treatment under anaesthesia in the first 24 hours after admission to hospital. This group included the 8 fractures with bruising evident at initial presentation. Thirteen other fractures in this group (without evidence of bruising at initial presentation) had developed overt bruising by the time of definitive treatment within 24 hours of hospital admission. Sixteen fractures were reviewed later in the first week for various reasons (for example, change of plaster casts, remanipulations); 4 of these had developed local bruising. Four fractures were reviewed at three weeks when a plaster cast was removed. They were all undisplaced distal radial fractures that had not required manipulative treatment, and bruising was not evident in any of them. Thus 25 fractures (28%) developed bruising during the first week after trauma.

Comment

The absence of bruising in children with fractures has been cited as supporting evidence that the force required to fracture the bone was minimal, which implies weakness of the underlying bone—perhaps due to a temporary abnormality such as copper deficiency or subtle forms of osteogenesis imperfecta.[1 3] In our study of normal children most fractures (91%) were not associated with bruising at the time of presentation. Most (72%) remained without evident bruising in the first week after injury. We therefore suggest that the absence of bruising cannot be taken to imply either underlying bone disease or an increased possibility of non-accidental injury.

Local bruising in acute fractures in childhood is perhaps less common than might be expected. When present it implies that any underlying fracture is likely to be displaced. Its absence is an unreliable sign on which to base a diagnosis of non-accidental injury.

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Prevalence of congenital anterior abdominal wall defects in the United Kingdom: comparison of regional registers

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Recent reports from England and Wales[1] and Scotland[2] imply that a gradient of increasing risk of congenital abdominal wall defects may exist from the south to the north of the United Kingdom. We tested this hypothesis by comparing data from a validated public health surveillance system in the west of Scotland with other registers in the United Kingdom.[3 4]

Subjects, methods, and results

The Glasgow Register of Congenital Anomalies is a computerised epidemiological database run by the Greater Glasgow Health Board since 1974. A member of the transnational network of EUROCAT (European Registration of Congenital Anomalies) since 1980, it uses multiple sources of ascertainment and subjects all notified anomalies to systematic diagnostic validation. Completed registration forms are transmitted electronically to the EUROCAT central registry in Brussels, where they are checked for completeness and accuracy of coding.[3] There is no formal time limit for notification. All births and induced abortions following prenatal diagnosis are included in the surveillance. Diagnostic coding is based on the British Paediatric Association's extension to the ninth revision of the *International Classification of Diseases.*

The numerators were all registered cases of omphalocele (code 75670) and gastroschisis (code 75671) in mothers resident within the area covered by the Greater Glasgow Health Board at the time of delivery; cases were included that occurred in live births, still births, and induced abortions for 1980-93 inclusive. Induced abortions were counted in the year of the expected date of delivery had the pregnancy continued. The denominators were the total births to mothers in the area in the relevant time period. Prevalence was calculated by dividing the numbers for each defect by total births. Prevalences were compared using χ^2 tests, and ratios of omphalocele to gastroschisis using a χ^2 test for heterogeneity of odds ratios.

During the study there were 73 cases of omphalocele (4.08 per 10 000 births), of which 34 (47%) were induced abortions, and 24 cases of gastroschisis (1.34 per 10 000 births), of which 5 (21%) were induced abortions. The apparently high prevalence of abdominal wall defects in Glasgow relative to other parts of the United Kingdom was due to its exceptionally high rate of omphalocele (table).

Comment

Our data support the hypothesis of an increasing gradient in the prevalence of congenital anterior abdominal wall defects from the south to the north of the United Kingdom. Whether the phenomenon is real or artefactual (due to varying ascertainment) remains uncertain. In Glasgow the risk of omphalocele seems especially high. The prevalence of omphalocele