there is unlikely to be major confusion between the two groups.

The limb-girdle muscular dystrophies (LGMD) are a group of autonomously inherited progressive myopathic diseases. Eight different genetic types of LGMD have so far been identified, of which two are dominantly inherited, and the factor recently inherited. 1 Of the genes so far identified, three encode structural proteins of the dystrophin associated glycoprotein complex and one encodes the muscle specific calpain.

Clinically, there are insufficient data so far to distinguish between the different forms of LGMD. In the past, LGMD has been confused with other forms of muscle disease. Patients previously diagnosed as suffering from LGMD have in some cases been shown by molecular analysis to have a dystrophinopathy (X linked) or mitochondrial or metabolic disease.

Given the extreme heterogeneity of LGMD, it is important to ensure that resources are applied to track down the primary genetic defect in any particular family or case as soon as possible, to allow the development of any relevant clue to the resolution of all possible alternative diagnoses. It has been postulated that the milder forms of spinal muscular atrophy (type III SMA) may be a source of diagnostic confusion in recessive forms of SMA. Phenotypically, both diseases show proximal muscle weakness and wasting, creatine kinase levels may be raised in SMA, and EMG and muscle biopsy analyses may show conflicting or confusing results.

It is now possible to perform molecular tests for the genetic faults which are associated with chromosome 5 linked SMA. We examined a panel of 95 patients with a diagnosis of SMA. These patients were from a variety of different sources both in the UK and abroad. Some referred themselves to our department because of our research interest in LGMD, others were referred from recognised neuromuscular units. All, according to the information available, had clinical characteristics and investigations which were consistent with a diagnosis of LGMD according to the above diagnostic criteria. 1

We analysed DNA samples for deletions of exons 7 and 8 of the survival motor neuron (SMN) gene (deleted in approximately 94% of milder SMA cases) 2 and also for deletions of exons 5 and 6 of the neuronal apoptosis inhibitory protein (NAIP) gene (deleted in about 67% of SMA type 1 cases and 42% of type 2 and 3 cases). 3 We found deletions in SMN and NAIP in only one family. Haplotype analysis confirmed that the affected sibs in this family did share the chromosome 5 region containing the SMN and NAIP genes. The three children from this family had childhood onset of a predominantly proximal muscle weakness and wasting with a diagnosis of SMA. Those patients were from a variety of different sources both in the UK and abroad. Some referred themselves to our department because of our research interest in LGMD, others were referred from recognised neuromuscular units. All, according to the information available, had clinical characteristics and investigations which were consistent with a diagnosis of LGMD according to the above diagnostic criteria. 1

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**Cell Therapy.** Editors G Mortyn, W Sheridan. (£70.00, US$100.00.) Cambridge: Cambridge University Press. 1996. ISBN 0 521 47314-2.

It has been predicted that in the coming decade cell based therapies will begin to rival traditional pharmaceuticals in many areas of medicine but especially oncology. This timely book largely succeeds in its goal of providing a snapshot of this rapidly expanding field. The more than 70 contributors are authorities in the field and this compendium is the inevitable variation in knowledge up to the date material is.

The book is organised into sections covering overlapping scientific, technical, and clinical aspects of haematopoietic cell therapy and immunotherapy introduced by succinct reviews of relevant aspects of the haematopoietic and immune systems by Moore and Slavin. The main body of the book is devoted to laboratory and clinical aspects of haematopoietic cell therapy starting with excellent reviews of progenitor assays, flow cytometry, and gene transfer methods. Mobilisation of peripheral blood progenitor cells, perhaps the major advance in haematology in the last decade, is well covered in a series of chapters by Sippali, To, and Sheridan and this is followed by reviews of cell selection, purging, and expansion by some of the innovators and authorities in the field. Perhaps the most disturbing aspect of these technologies is, of course, that they facilitate dose intensification strategies in the treatment of malignant disease, and approaches to this involving growth factor and cellular support in a variety of diseases are covered next. Discussion of future applications of haematopoietic cell therapy is restricted to gene therapy and cellular transplantation, but it is likely that much of the success to date has been modest by the least. Techniques for the generation of dendritic cells, perhaps one of the most promising new developments, are scarcely mentioned and this must count as a major omission. The final section of the book concentrates on experimental and clinical aspects of immunotherapy with coverage of the courses, tumour vaccines, and adoptive immunotherapy with autologous T and natural killer cells and allogeneic cells in the context of bone marrow transplantation. Irrespective of some topics not covered, notably the field of gene therapy, the book presents a balanced coverage of the challenges and opportunities of this novel area of medicine.