Volume 94 is the second edition of the British Medical Bulletin for 2010, and has a wide range of interesting reviews on topics of interest.

The first review is on **Non-medical sex selection: ethical issues** (page 7) by Strange at Cardiff University, UK.

She aims to provide a concise review of the ethical issues that are commonly raised in the UK debate on nonmedical sex selection. Background information on sex selection technologies is provided, as is a description of the relevant UK legislation. Arguments for and against nonmedical sex selection are explained and compared and conclusions drawn. It is suggested that the international debate on nonmedical sex selection ought to be regarded as an important area of related interest. Data were obtained from a search of existing ethics and policy literature focusing on sex selection. There are very few areas of universal agreement in the debate. There is much disagreement between critics over what harms are likely to be caused by sex selection and whether such harms are morally significant. It remains controversial whether governments can legitimately place limitations upon individual reproductive autonomy, and if so, to what degree.

The second review is on **Pulmonary hypertension: advances in pathogenesis and treatment** (page 21) by Toshner, Tajsic and Morrell from the Department of Medicine, University of Cambridge, UK.

They state that pulmonary hypertension is an orphan disease that until recently has received limited attention within the wider medical community. This has changed distinctly in the last 10 years with the advent of new classes of therapy and a renewed interest in mechanisms of pathogenesis. They discuss interesting new concepts in pathogenesis, including the importance of genetic forms of the disease and in particular the transforming growth factor receptor superfamily, and the evolving evidence of the contribution of dysregulated immunity. Areas of research may yield therapeutic benefit in the not-too-distant future, include anti-proliferative therapies and stem cell therapy.

The third review is on **Living-donor liver transplantation in adults** (page 33) by Lee from the HepatoBiliary Surgery and Liver Transplantation, University of Ulsan College of Medicine, Seoul, Korea.

The technique of paediatric living-donor liver transplantation (LDLT) has become standardized. In adults, however, there is scope for innovation. Unlike cadaveric whole-liver transplantation and paediatric LDLT, size matching between the liver graft and the recipient by body weight has been a major challenge in the adult LDLT because it is important to provide an adequate graft mass to the recipient while
leaving a sufficient mass of remnant liver in the donor. Modified right lobe grafting with interposition vein grafts to drain venous outflow of the anterior sector, has been introduced, thus increasing the functioning hepatocyte mass, and dual left-lobe liver grafts to overcome these problems. Although the surgical procedures for both donor and recipient are more complex for adult LDLT than for whole-organ deceased donor transplantation, the outcomes in large-volume centres are now similar. In performing these procedures, it is crucial to minimize the risks of morbidity and mortality to the healthy live donor.

The fourth review is on New technologies for the detection of circulating tumour cells (page 49) by Gerges, Rak and Jabado from Montreal Children’s Hospital, McGill University Health Centre, Montreal, Canada.

They state that the vast majority of cancer-related deaths are due to the metastatic spread of the primary tumour. Conventional markers of circulating tumour cells (CTC) are not reliable for detecting occult metastasis and, for example, fail to identify ~40% of cancer patients in need of more aggressive or better-adjusted therapies. The benefits of CTC detection in early breast cancer and other solid tumours need further validation. Moreover, optimal CTC detection techniques are the subject of controversy as several lack reproducibility, sensitivity and/or specificity. Recent technical advances allow CTC detection and characterization at the single cell level in the blood or in the bone marrow. CTC assays are being integrated in large clinical trials to establish their potential in the management of cancer patients and improve our understanding of metastasis biology.

The fifth review is on Cell therapy for cardiac repair (page 65) by Lee and Terraccianoa at Imperial College, and London Harefield Heart Science Centre, London.

They state that heart failure is a leading cause of morbidity and mortality worldwide. The current strategies for treatment are limited and new therapeutic approaches are needed. Cell therapy is a promising strategy to treat heart failure, as it aims to replenish the failing myocardium with contractile elements. However, cell therapy with adult progenitor cells induces a small improvement of heart function without significant cardiomyogenesis. The most effective cell type for therapy remains unclear. Induced pluripotent stem cells have the greatest potential but more information on the properties of this cell type is needed. The integration of cells in the host myocardium and the routes of delivery remain controversial. The differentiation of cardiac cells from pluripotent and multipotent cells and the understanding of their properties are growing points in cell therapy. More research is needed correctly to assess the physiological properties of differentiating cells, to dissect the
role of the host environment in the integration and differentiation and to define the stage of differentiation required for cell transplantation.

The sixth review is on Rating scales for low back pain (page 81) by Longo, Loppini, Denaro, Maffulli and Denaro at the Department of Orthopaedic and Trauma Surgery, Department of Neurosurgery, Catholic University School of Medicine, Rome, Italy and the Centre for Sports and Exercise Medicine, Barts and The London School of Medicine, London, UK.

During the past decades, several rating scales have been developed to assess the functional status of patients with low back pain. Twenty-eight scoring systems are currently available for the evaluation of low back pain. Each of them evaluates low back pain using specific variables. All these scoring systems are presented. Although many scoring systems have been used to evaluate back function, we are still far from a single outcome evaluation system, which is reliable, valid and sensitive to clinically relevant changes, takes into account both patients’ and physicians’ perspective and is short and practical to use. Further studies are required to evaluate the reliability, validity and sensitivity of the low back pain scoring systems used in the common clinical practice.

The seventh review is on the Prevention and treatment of microvascular disease in childhood type 1 diabetes (page 145) by Marcovecchio, Tossavainen and Dunger at the Department of Paediatrics and Institute of Metabolic Science, University of Cambridge, UK and the Department of Paediatrics, University of Chieti, Italy.

They say that the incidence of type 1 diabetes (T1D) is increasing worldwide, particularly in children, and is associated with a significant burden, mainly related to the development of vascular complications, which include nephropathy, retinopathy and neuropathy. Improving glycaemic control is the principle way of preventing and treating T1D complications. In adults with T1D and microvascular complications, treatment with antihypertensive drugs and statins is increasingly common, whereas there are no definitive indications for treatment with these drugs in children and adolescents. Investigations to clarify genetic and environmental factors implicated in the pathogenesis of microvascular complications could lead to the identification of biochemical markers with high predictive values, to be used as a guide for screening and intervention programs.

The eighth review is on Tendon augmentation grafts (page 165) by Longo, Lamberti, Maffulli and Denaro at Department of Orthopaedic and Trauma Surgery, Campus Biomedico University, Rome, and the Centre for Sports and Exercise Medicine, Barts and The London School of Medicine, London.
Several biomaterials are available to bridge large tendon defects or reinforce tenuous tendon repairs and augmentation. Scanty evidence is available for the use of these scaffolds. The emerging field of tissue engineering holds the promise to use biomaterials for tendon augmentation. Preliminary studies support the idea that these biomaterials have the ability to provide an alternative for tendon augmentation. However, available data are lacking. The prevalence of postoperative complications encountered with their use varies with different studies. Rather than providing strong evidence for or against the use of these materials for tendon augmentation, this study instead generates potential areas for additional prospective investigation.

The ninth review is on the Management of essential hypertension (page 189) by Mancia and Grassi at the Università Milano and Bicocca, Ospedale San Gerardo, Monza and Istituto Auxologico Italiano, Milan, Italy.

Epidemiological studies have unequivocally shown that hypertension is a major cardiovascular risk factor and that a direct linear relationship exists between the severity of the blood pressure elevation and the occurrence of cardiovascular events. The beneficial effects of blood pressure lowering has been recognized for a number of years. These include not only a reduction in cardiovascular morbidity and mortality but also the regression (or the delay of progression) of hypertension-related end organ damage. Antihypertensive drug treatment still faces a number of unmet goals and unanswered questions, such as the target blood pressure to achieve in high-risk patients, the threshold of treatment in low-risk patients and the choice of the therapeutic approach more likely to offer greater cardiovascular protection. Future effort will be needed to achieve a better blood pressure control in the population and thus to obtain a greater cardiovascular protection.

The tenth piece is on New understanding and approaches to treatment in rheumatoid arthritis (page 201) by Tayar and Suarez-Almazor at the Section of Rheumatology, The University of Texas, USA.

They say that rheumatoid arthritis (RA) is the most common autoimmune inflammatory polyarthritis. Significant advances in the understanding of its pathogenesis have led in the past two decades to major advancement in its therapy. Appropriate, early and aggressive therapy is required for confirmed active cases of RA. The choice of disease-modifying drugs and different combinations, especially the newer biologic agents in regards of their early and long-term usage remains debatable because of high costs and long-term safety concerns. Development of newer biologic agents working on different pathways of inflammation is underway in different stages. It remains to be determined how and when each of these agents will fit in the overall.
management of RA. Furthermore, postmarketing surveillance of the safety and response sustainability of these drugs is important.

The last review is on Community-associated methicillin-resistant Staphylococcus aureus infections (page 215) by Cooke and Brown from Health Protection Agency, Addenbrooke’s Hospital, and the The Wellcome Trust Sanger Institute, Cambridge, UK.

They say that community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA) has been recognized for over a decade, and usually refers to MRSA identified in previously healthy individuals with no recognized MRSA risk factors. Infections range from minor skin and soft tissue infections to severe pneumonia and necrotising fasciitis. Areas of agreement in this field include the important genotypic and phenotypic differences of community MRSA strains compared with hospital strains. The precise epidemiological definition of community-acquired/associated MRSA remains controversial. Fortunately, true CA-MRSA can be differentiated from hospital MRSA by molecular techniques. Recent interest has focused on the changing epidemiology of CA-MRSA. Worldwide, CA-MRSA is now seen outside of the initial specific population groups, and in the USA, the successful USA300 community strain is beginning to spread back into hospitals. Reasons why USA300 remains relatively uncommon in Europe are unclear. Topics timely for research include the investigation of the epidemiology of infections and evolutionary genomics.

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