In This Issue, Volume 128

The role of neutrophils in cancer and Ethics and cloning

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These important subjects have full free online access. The first, on neutrophils in cancer is an important topic for medicine. The second is part of the series of reviews centred around gene therapy. In addition, as usual, the Bulletin has a section to celebrate its archive, (see end of ‘In this Issue’).

The first free access review is The role of neutrophils in cancer (pages 5) by Grecian, Whyte, and Walmsley from the University of Edinburgh. They state that it has been known for some time that neutrophils are present in the tumour microenvironment; but only recently have their roles been explored. Neutrophils are a heterogeneous population with both pro- and anti-tumour roles, and display plasticity. Several neutrophil subpopulations have been identified; defined by a combination of features. There are limitations in translating murine tumour models to human pathology, a paucity of human data and difficulties reaching a consensus in defining human neutrophil subpopulations. Neutrophils may act as therapeutic targets and as possible playmakers in the biological response to newer targeted cancer drugs. Research needs to work on understanding the metabolic programming of neutrophils in the tumour microenvironment.

The second chosen free-to-view review is entitled Ethics and cloning (pages 15) by Hayry from the Philosophy of Management, Aalto, Finland. He says that scientists have cloned animals since the late 19th century, but the crucial step for ethics was the cloning of the first mammal by somatic cell nuclear transfer in 1997. This suggested that scientists could also clone, and possibly enhance, human beings. The one ethical area of agreement in this issue is that we should not try to create new human beings by somatic cell nuclear transfer. Ethicists disagree, however, on what justifies this norm. Some appeal to preference satisfaction and freedom from external constraints, others question this approach by more profound religious and moral considerations. The discussion is currently not progressing, as the same arguments have been in use since the 1970s. Philosophers should prepare deeper analyses of the presuppositions of the ethical arguments used in the discussion before the issue surfaces again.

In the rest of the Bulletin, the third review is Arthroscopic-assisted latissimus dorsi transfer (A-LDT) for massive rotator cuff tear (pages 23) by Osti, Buda, Andreotti, Gerace, Osti, Massari and Maffulli from Hesperia Hospital, Modena Italy, University of Ferrara, Italy, University of Salerno, Italy, Keele University and Queen Mary University, London, UK. They provide a comprehensive description of different surgical techniques for massive rotator cuff tears using arthroscopic-assisted latissimus dorsi transfer (A-LDT), reporting clinical outcomes and complications. A-LDT is a technical demanding procedure. When compared with the open technique, but seems to yield lesser surgical complications and postoperative stiffness. Sparing the deltoid muscle belly could result in a more effective shoulder post-surgery function.
comparative randomized controlled trials with longer follow-up are needed to clarify the potentially promising superiority of arthroscopic-assisted latisimus dorsi transfer.

The fourth review is entitled Prostate-specific membrane antigen positron emission tomography in the management of recurrent prostate cancer (pages 37) by Afaq and Bomanji from University College, London, UK. They say there is an unmet clinical need for early, accurate imaging of recurrent prostate cancer to improve patient outcomes. Gallium-68 Prostate Specific Membrane Antigen with Positron Emission Tomography/Computed Tomography (Ga-PSMA PET/CT) imaging in this setting has developed rapidly, with widespread international adoption in line with evidence-based guidelines in this group of patients. The main strength of PSMA PET/CT is its ability to identify small pathological lymph nodes, upstaging nodal status in up to two-thirds of cases. Controversy exists regarding patient access and NHS affordability of PSMA PET/CT imaging. Current NICE guidelines for prostate cancer management do not include a recommendation on when PSMA PET/CT should be used. Well-designed clinical trials with consideration of the health economic benefit of using PSMA PET/CT will be essential to provide a basis for entry into guidelines such as NICE and to provide a rationale for reimbursement.

The fifth review is entitled: Epigenetics: ethics, politics, biosociality (pages 49) by Chiapperino from University of Lausanne, Switzerland. He says that Epigenetics is a burgeoning field of contemporary biosciences, which has attracted a lot of interest both in biomedical and in social sciences. Epigenetics poses no new ethical issues over and above those discussed in relation to genetics. However, it encourages a different framing and reflexivity on some of the commonly held categories in the moral uptake of scientific discoveries. Epigenetics presents us with normative questions that touch upon privacy, responsibility for individual health and for the wellbeing of future generations, as well as matters of health justice and equality of opportunities. Epigenetic thinking could help us adjust and refine the problem-frames and categories that inform our ethical and political questions with a complex bi-social description of situations, of persons or actions.

The sixth review is entitled Autonomic dysfunction and chronic disease (pages 61) by Zalewski, Slomko and Zawadka-Kunikowska from Nicolaus Copernicus University in Torun, Poland. They say that most chronic diseases are accompanied by symptoms of pronounced dysautonomia, which frequently and noticeably deteriorate the quality of patients’ life. Functional disorders in the autonomic nervous system require very precise diagnostics; frequently involving several specialists and a number of diagnostic tests. Dysautonomia symptoms are of a very discrete nature and may develop much earlier than symptoms specific for a given chronic disease, significantly influencing the treatment process itself. Many researchers indicate that a decrease in dysautonomia intensity has a direct effect on the progress of the underlying disease, and undoubtedly contributes to the improvement of the general health condition or to symptoms remission.

The seventh review is The Management of hypertension in women planning for pregnancy (pages 75) by Lu, Chen, Cai, Huang and Yuan from Central South University, Changsha, China. They state that poorly controlled hypertension in the first trimester significantly increases maternal and foetal morbidity and mortality. Most guidelines and clinical trials focus on the management and treatments for hypertension during pregnancy and breast-feeding, while limited evidence could be applied to the management for hypertension before pregnancy. In this review, we summarized the existing guidelines and treatments of pre-pregnancy treatment of hypertension. Methyldopa and labetalol are considered the first choice. There is increasing debate regarding discouraging the use of diuretics. There is also controversy regarding the use of supplementations such as calcium, antioxidants and low-dose aspirin. Large, worldwide, randomized trials should be conducted to see the outcomes for hypertensive women who take antioxidants/physical activity before pregnancy.

The eighth review is entitled The latest treatment options for bladder cancer (pages 85) by Crabb and Douglas from University of Southampton, UK. They
say that bladder cancer carries a high health care burden and a poor prognosis once distant metastatic spread has occurred. Optimal bladder cancer management requires a multi-modal approach incorporating surgery, radiotherapy, chemotherapy and immunotherapy. Selection criteria for radical surgery, or radiotherapy as a bladder sparing option, and their relative efficacy, remain poorly defined. Palliative immunotherapy has been recently established for advanced bladder cancer after prior chemotherapy. Earlier use is under investigation. Validated predictive biomarkers, potentially from easily repeatable sites (‘liquid biopsies’), will be required to optimize the use of molecularly targeted treatment options.

The ninth review is entitled: Mexico and mitochondrial replacement techniques: what a mess! (pages 97) by Palacios-González from University of Oxford, UK. He says the first live birth following the use of a new reproductive technique, maternal spindle transfer (MST), which is a mitochondrial replacement technique (MRT), was accomplished by dividing the execution of the MST procedure between two countries, the USA and Mexico. This was done to avoid US legal restrictions on this technique. MRTs are new reproductive techniques that present novel ethical and legal challenges, since genetic material from three people is employed to create a child. Could the first MST procedure that culminated in a live birth negatively impact reproductive medicine in Mexico? There is a pressing need for work to be done on the international governance of new reproductive techniques.

The 10th review is entitled: The impact of the General Data Protection Regulation (GDPR) on Health Research (pages 109) by Chico from the University of Sheffield, UK. She says that on the May 25, 2018 the General Data Protection Regulation came into force, replacing the Data Protection Directive 95/46/EC, and imposing new responsibilities on organizations which process the data of European Union citizens. The Regulation seeks to harmonize data privacy laws across Europe, to protect and empower all EU citizen’s data privacy and to reshape the way that organizations approach data privacy. The Regulation is sector wide, but its impact on organizations will be sector specific. In some sectors, the Regulation inhibits the processing of personal data, while in others it enables that processing. The Regulation takes the position that the ‘processing of data should be designed to serve mankind’. Thus, the protection of personal data is not absolute, but considered in relation to its function in society and balance with other fundamental rights in accordance with the principle of proportionality.

From the archive

The British Medical Bulletin (BMB) has an extensive archive dating back to 1943. The journal is publishing selected papers from that archive. This quarter we have a piece on the Medical and social aspects of pulmonary disease by Phillip Montague D’Arcy Hart, who was one of the pioneers who carried out, what was probably the first randomized controlled trial in humans, on the use of streptomycin in tuberculosis. He was also very involved in the evidence for the efficacy of medicine and a strong supporter of the International Brigade in the Spanish Civil War. The front page of the paper can be accessed directly online, and the rest read in the link below. The original link is: https://doi.org/10.1093/oxfordjournals.bmb.a071076. You can access these collected articles more easily and more fully by visiting the ‘Highlights from the BMB Archive’ collection: (http://bit.ly/2nTsFIH). Enjoy!

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