MINIMISING BLOOD LOSS AT SURGERY TO IMPROVE ONCOLOGICAL AND FUNCTIONAL OUTCOMES IN MUSCULOSKELETAL TUMOURS

Wan-Ismail Faisham, MD

Prince Court Medical Center, Kuala Lumpur, Malaysia

Management of musculoskeletal tumours has progressed tremendously for the past few decades. Limb salvage surgery had become a standard practice without compromising the oncological outcome. Patients generally will benefit superior function and better quality of life compared to definitive amputation. The multidisciplinary approach and advancement of surgeries is important to achieve patient's survival and optimum function.

Multidisciplinary approach for cancer treatment to reduced cancer vascularity with neoadjuvant chemotherapy, intraoperative torniquet and hypotensive anaesthesia are the major part of minimising a need for blood transfusion. Detailed surgery with wide margin surgery and avoid marginal is important to minimise local recurrence as well as intraoperative blood loss. Each major branch must be clipped and diathermised for better hemostasis control.

Anatomical approach between compartments is important to minimise tumour contamination and intraoperative bleeding. This can be done with good preoperative MRI image with MRA sequence as part of surgical planning. Securing main vessels by ligature each perforator artery to the tumour as initial part of surgical approach significantly improves visuals for margin control and minimised bleeding. For vascular bone tumour, preoperative embolisation, hypotensive anaesthesia and use of tranexamic acid significantly reduced intraoperative bleeding. Hemostasis control is also important in preparation for cementation of prosthesis in dry environment for its longevity and minimised early loosening.

However, intraoperative recycling of blood is not routinely used due to risk of systemic dissemination. Preoperative autologous blood donation is not practical in this group of patient where systemic chemotherapy is used as neoadjuvant prior to surgery.

Corresponding author: Wan Ismail Faisham, (MD), Orthopaedic Oncology Surgeon, Prince Court Medical Center, Kuala Lumpur, Malaysia

Email: wifaisham@gmail.com