Section of Acta Cirúrgica Brasileira dedicated to sentinel node researches

The goal of surgical oncology is to remove trapped tumor cells within lymphatic system at a time when tumor burden was so small that the chance of systemic dissemination was believed to be insignificant. Sentinel lymph node biopsy (SNB) has emerged by the end of the 20th Century to detect micro metastasis in one or few lymph nodes. SNB is a minimally invasive procedure that selects patients for complete lymphadenectomy. Only patients with micro metastasis into sentinel node (SN) are submitted to complete lymphadenectomy. Patients without metastasis are preserved, avoiding complications as infection, paresthesia and edema. It is one of the most important advances in surgical oncology and has been adopted by American Joint Committee on Cancer since 2002 for melanoma and breast cancer staging. SNB has been checked in others tumors such as those of the gynecological and gastroenterological areas and those of the head and neck region.

Sentinel lymph node procedure involves three phases: 1. pre-operative lymphoscintigraphy; 2. biopsy of the sentinel node – by means of vital dye lymphatic mapping and intra-operative gamma probe detection; 3. histological examination of the SN. Many questions remain unsolved, such as in which cases this technique should be indicated (importance of mitotic rate, vertical growth factor and regression for cutaneous melanoma); what to do with a specific patient with only one compromised SN in a few extension; what is the clinical significance of a SN with m-RNA positive thyrosinase by RT-PCR. On the other hand, this procedure has a low but not insignificant complication rate. With increasing follow up, false negative rates are increasing, representing failures of nuclear medicine and/or surgery and/or pathology. More reliable techniques in each of these steps and new knowledge achieved by basic science researches are being investigated objecting to improve the accuracy of SN identification and pathological exam. Experimental models of sentinel node biopsy opened a new frontier in the knowledge of this field such as the lymphodinamic studies, culture of endothelial lymphatic cells and the radiopharmaceutical tests. Recently, sonographic contrast agent has been used to identify SN without operation. Lymphosonography can be used to detect lymphatic drainage pathways and SN in a variety of animal models. Magnetic resonance with Gadomer not only provides excellent visualization of SN, but also provides the potential for targeted therapy of SN. In Brazil, the technique has been practiced since middle of 1990’s and it can be learned in several training centers like Sentinel Node Laboratory of Plastic Surgery of the Federal University of São Paulo (UNIFESP), coordinated by Renato Santos and “Saul Goldenberg Laboratory of Sentinel Node” of Federal University of Ceará (UFC), coordinated by Luiz Porto.

We expect that this new and specific section of Acta Cirúrgica Brasileira, dedicated exclusively to sentinel node researches, could be a new channel for publication of advances in SNB, resulted from activities of researchers located throughout global community. We hope also, that this Sentinel Node Section will contribute to the goal of Acta Cirúrgica Brasileira, to be indexed by the Institute for Scientific Information at the Web of Science.