

# Lymph node fine needle cytology in infectious diseases: a clinical perspective

## ***Diagnostica citologica per ago sottile dei linfonodi in malattie infettive: correlazioni cliniche***

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Lymph node enlargement and its clinical evaluation may be a uncomfortable task for clinicians. In most of the cases, mainly when it occurs in a clear clinical context, the diagnosis of reactive enlargement is quite straightforward as well as the corresponding therapeutic procedures. This consequential link is neither constant nor uniformly repetitive because the sites of arising, the number of involved lymph nodes, the size, the consistence and the responsiveness to the therapy may be extremely variable. Moreover, lymphadenopathy may have completely different clinical meanings depending on age, site and clinical history of patients. When the objective presentation is less clear and serological data do not explain or do not match with the clinic context, instrumental evaluations are usually required. Ultrasound evaluation (US), Computed Tomography (CT) and other non-invasive procedures are usually helpful and produce a large amount of information that can suggest or identify the nature of the lymphadenopathy. Unfortunately, these non-invasive procedures rarely lead to a definitive diagnosis; if a lymph node enlargement persists, surgical excision of the lymph node is the next step, and, in most of the cases, histological evaluation is the gold standard for a definitive diagnosis. However, surgical excision is a demanding procedure for the patient, the physician, as well as for the health care system; it may require hospitalization, a complete surgical procedure, and it is not completely free from possible complications. A de-

finite diagnosis is then based on the histological examination, that requires additional time and costs, being neither necessarily timely nor always definitive. When finally obtained, the histological diagnosis is the basis for diagnostic, prognostic and predictive evaluations, mainly in case of lymphoma. However, histology may also identify benign reactive hyperplasia without definitive indications on the possible aetiology or, in the worst cases, a metastasis from a known or unknown primary tumour. In both these latter situations, surgical biopsy might be "too much" in case of reactive hyperplasia or "too little" in specific clinical settings. Fine Needle Cytology (FNC) is an established diagnostic procedure that is routinely and successfully utilized in different organs and pathologies [1-13]. This simple, cheap and effective technique allows the harvest of cells to prepare smears or cell suspensions for microscopic diagnoses, using thin needles with or without aspiration. Diagnoses, clinical decisions and therapies are often established in different organs such as thyroid, breast, lung or haematological diseases [14-19] on the basis of the sole cytological diagnoses. Despite this, some scepticism and even distrust have traditional matched lymph nodal cytological diagnoses and pathologists who tried to exploit this field. This distrust has been maintained by clinicians and pathologists who are not accustomed with the technique and do not rely on smears for diagnoses. Nonetheless, lymph nodal cytology, coupled with imaging techniques on the one side, and ancillary tech-

niques on the other, has reached high levels of diagnostic accuracy and represents an affordable tool available for clinicians. Lymph node FNC is more and more used in different clinical settings, including infectious diseases and, as a result, a large number of books, reviews, original articles and abstracts deal with possibilities, indications, advantages and limitations of FNC of lymph nodes and its own specific pathologies [1-13, 19-24]. Considering the number of pathological entities, the specific microscopic, phenotypic and molecular features, the possibilities and the limitation of this technique, as well as the hyper-specialization of this chapter of pathology, a comprehensive review might be daunting for clinicians, mainly devoted to infectious diseases [25-27]. In this issue of the Journal, we have committed to a number of young pathologists, mostly dedicated to the lymph node cytopathology, to exploit this amazing field of pathology trying to summarize useful information for our readers in a simple and comprehensible handout.

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