



How to read a pathology report of a bone tumor

Jean-Marc Guinebretière^{a,*}, Jennifer Kreshak^b, Voichita Suciua^a, Charles De Maulmont^c,
Eric Mascard^d, Gilles Missenard^d, Frederique Larousserie^{b,e,1}, Daniel Vanel^b

^a Department of Pathology, Hôpital René-Huguenin, Institut Curie, 35 rue Dailly, 92210 Saint Cloud, France

^b Department of Research, Istituto Ortopedico Rizzoli, Bologna, Italy

^c Department of Radiology, Hôpital René-Huguenin, Institut Curie, 35 rue Dailly, 92210 Saint Cloud, France

^d Institut Gustave-Roussy, 35 rue Camille Desmoulins, 94805 Villejuif, France

^e Université Paris Descartes, Sorbonne Paris Cité, Faculté de Médecine, Paris, France

ARTICLE INFO

Keywords:

Histology report
Pathology
Diagnosis
Core needle biopsy
Large core needle biopsy
Surgical biopsy
Bone lesions
Bone tumors

ABSTRACT

The interpretation of a biopsy specimen involving bone is one of the most challenging feats for a pathologist, as it is often difficult to distinguish between benign or reactive lesions and malignant tumors on microscopic analysis. Therefore, correlation with the clinical data and imaging is essential and sometimes it is only the evolution of certain characteristics over time or information garnered from molecular analysis that can provide an accurate diagnosis. The pathology report is critical in that it will define subsequent patient management; its wording must precisely reflect those elements that are known with certainty and those that are diagnostic hypotheses. It must be systematic, thorough, and complete and should not be limited to a simple conclusion. The pathologist must first ensure the completeness and correct transcription of the information provided with the specimen, then describe and analyze the histology as well as the quality and representative nature of the sample (as they relate to the radiographic findings and preliminary/final diagnoses), and finally, compare what is seen under the microscope with the assessment made by the radiologist and/or surgeon.

This analysis helps to identify difficult cases requiring further consultation between the radiologist and pathologist.

There are multiple reasons for misinterpretation of a pathology report. An important and largely underestimated reason is varied interpretations of terms used by the pathologist. Standardized pathology reports with concise phrases as well as multidisciplinary meetings may limit errors and should be encouraged for optimal diagnostic accuracy.

© 2011 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

A biopsy is the premiere diagnostic method for bone lesions and the one that best determines further patient management. Proper execution is complex, from technique (radioguided or surgical), approach, choice of sections to be taken from the lesion, proper management of the specimen material (whether it will be analyzed for microbiology, molecular biology, and/or cytology), and prevention of complications [1]. It has been proven that these biopsies are best performed in centers with high biopsy volumes (e.g. tertiary referral institutions with large orthopaedic departments) [2,3]. A well-performed biopsy determines the accuracy of diagnosis and subsequent management; likewise, a poorly performed biopsy may be the source of local or general complications and delayed or inappropriate care.

The microscopic analysis of bone lesions is particularly difficult because some benign lesions may microscopically resemble sarcomas, whereas some malignant tumors may look like benign lesions. Careful comparison with clinical data and imaging, as well as molecular biological studies are often crucial for diagnosis. This analysis has become even more challenging with the advent of radioguided biopsy, which decreases the biopsy volume of these often heterogeneous lesions.

Whatever the indication for the biopsy, all diagnostic information should be included in the pathology report; it should be a true reflection of the entire diagnostic procedure. Clear understanding is crucial to avoid the misinterpretation of results, thus ultimately ensuring the best care of the patient. This article will be divided into two parts: the structure of the pathology report and its interpretation.

2. Structure of the pathology report

For many clinicians, the analysis of a pathology report is limited to reading the conclusion, however, the microscopic analysis

* Corresponding author.

E-mail address: jean-marc.guinebretiere@curie.net (J.-M. Guinebretière).

¹ FL is supported by a grant from Fondation De France/Fédération Nationale des Centres de Lutte Contre le Cancer.

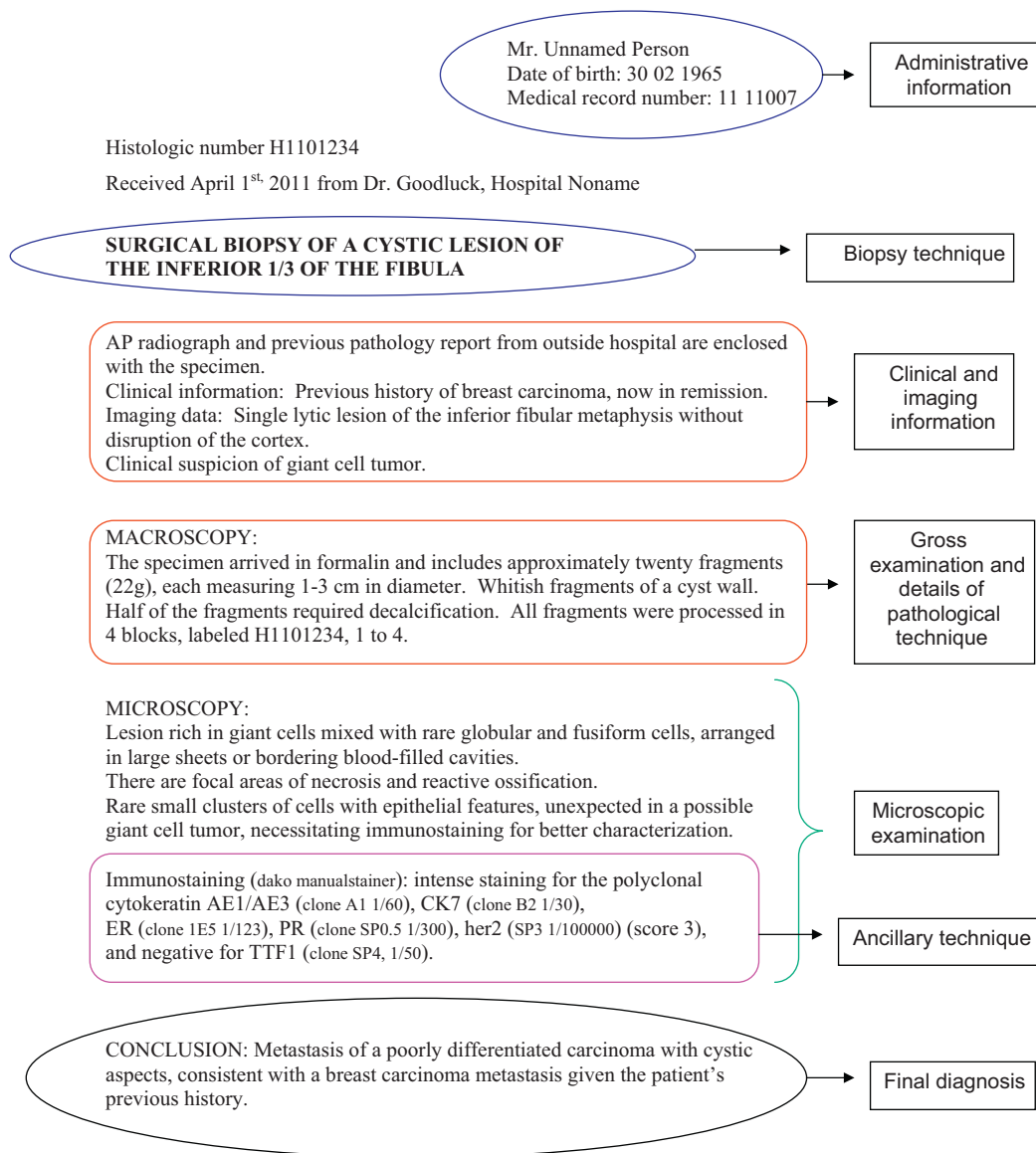


Fig. 1. Example of a bone biopsy pathology report.

and diagnosis one finds in the report do not always ensure that the biopsy specimen was a good representation of the lesion. This is a particular difficulty with specimen that require not only a diagnostic analysis but also a correlation with the clinical data and imaging to evaluate of the representative nature of the biopsy. Therefore, an analysis of a biopsy pathology report should not be limited solely to the conclusion, but requires a systematic and detailed reading of the entire report (Fig. 1).

The data are usually divided into five distinct parts: patient information; description of the lesion, technique, and specimen; technical management; microscopic analysis; conclusion. The information contained in each of these parts is presented so that radiologists and clinicians know where to find it, better exposing potential pitfalls in a pathology report.

2.1. Information about the patient and the lesion biopsied

This part, more administrative in nature, must include all information provided with the biopsy. This includes:

- *Patient information:* Name, date of birth, and medical record number.
- *Unique laboratory registration number:* In the event that there are biopsies of lesions in different sites, it is advisable to register each biopsy under a different number to limit the risk of error during technical processing or microscopic reading [4].
- *Clinical information:* It is essential for the pathologist because many conditions can affect the interpretation:
 - Signs and symptoms, including spontaneous pain (known to be of diagnostic importance in cartilaginous tumors) and any rapid evolution or recent changes in known and monitored cases.
 - Relevant past medical history (e.g. renal pathology, other malignancy), specifically including any bone-specific conditions (e.g. Paget's disease, associated malformations), as well as any relevant current/past treatment (e.g. previous radiation therapy, immunosuppression for transplantation).

All of this information is important for the diagnostic analysis and must be sent with the biopsy. This is documented in the

Download English Version:

<https://daneshyari.com/en/article/6243997>

Download Persian Version:

<https://daneshyari.com/article/6243997>

[Daneshyari.com](https://daneshyari.com)