



How to Read Your Pathology Report

~ From a pathologist for the patient ~

Mayank Patel, MD

National Cancer Institute

Purpose of the Pathology Report

- Definitive diagnosis based on the cells, their features and organization
- Puts a name to the entity in question and suspicion
- Universal method of conveying the findings to clinicians and patients
- Medicolegal document filled with medical jargon
- A typical patient can not understand the report without their physician
- Ultimately, the report is meant for the patient

Sample Report

National Institutes of Health/National Cancer Institute

Lab. of Pathology, National Cancer Institute
Bldg. 10/Room 2S235 Bethesda, MD 20892
Phone: (301) 480-8470 Fax (301) 480-7173

Surgical Pathology Report**SI-23-9411**

PATIENT: Report, Sample **MRN:** 8675309
ACCOUNT#: BILL0005965 **COLLECTION DATE:** 2/7/2023 1:26 PM
DOB: 3/4/1975 **RECEIVED DATE:** 2/7/2023 1:26 PM
AGE: 66 Y **SEX:** M
LOCATION: SURGICAL PATHOLOGY OFFICE
REQUESTING: Pacak, Karel

DIAGNOSIS:

This is the main piece of the pathology report which tells you the diagnosis of your surgery

A. Adrenal gland, right, total adrenalectomy:

- Pheochromocytoma, multinodular. Large tumor nodule measured 1.8 cm in diameter.
- The two adjoined nodules are pheochromocytoma with a rim of adrenal cortical tissue.
- See note.

A-FS. Lymph node, adjacent to right adrenal, frozen:

- Consistent with lymphoid tissue
- No tumor seen.

NOTE:

- Details the appearance, organization, and types of cells
- Mentions any special studies such as immunostains and molecular
- Puts into context what was identified

The sections show a tumor with adjacent normal adrenal cortical tissue. The tumor cells are atypical and appear to be neuroendocrine cells. These tumor cells are arranged in clusters or nests surrounded by stromal cells and vessels. The tumor cells display diffuse cytoplasmic positivity with synaptophysin and chromogranin immunostaining. The S100 stain is positive in the supportive stromal cells surrounding the tumor cells with some positivity in tumor cells. Ki-67 shows a proliferative index of less than 3% in the tumor cells.

Additional molecular testing is performed using whole exome DNA sequencing to further classify any genetic variants in the tumor. These results will be reported separately when available.

Adequacy Assessment for Ancillary Testing

Patient Identification
Report, Sample
8675309

Surgical Pathology Report
NIH-2772 (7/97)
P.A. 09-25-0099
File in Section 3: Tissue Examination

National Institutes of Health/National Cancer Institute

Lab. of Pathology, National Cancer Institute

Bldg. 10/Room 2S235 Bethesda, MD 20892 Phone:(301)480-8470 Fax(301)480-7173

Name: Report, Sample

Accession No.: SI-23-9411

MRN: 8875309

The specimen was then returned to formalin and received in Surgical Pathology. The remainder of the mass is entirely submitted in cassettes A1 and A2 and representative sections of normal adrenal gland are submitted in cassettes A3- A9. Two firm nodules in the adipose tissue mostly likely representing a lymph nodes are entirely submitted in a cassette labeled A10. The remainder of the specimen is returned to formalin and saved in Surgical Pathology.

Cassette Summary:

A1-A2: Adrenal Mass

A3-A9: Adrenal Gland

A10: potential lymph nodes

Gross Description dictated by Dr. M. Patel on 6/27/2023.

DISTRIBUTION:**Who should the report be sent to**

Dr. Karel Pacak

[EMAIL]

[FAX]

Dr. Naris Nilubol

[EMAIL]

[FAX]

Accessioned: 9/7/2023 1:26 PM

Patient Identification

Report, Sample

8875309

Surgical Pathology Report

NIH-2772 (7/97)

P.A. 09-25-0099

File in Section 3: Tissue Examination

Information at the top of the report

- Location of the institution
- Identifiable information
 - Name, Medical Record Number, Date of birth, and pathology report/specimen number
- Date of surgical procedure
- Who performed the procedure
- Who requested the procedure

Diagnostic Line

- A summation of findings into a name or entity
- Your diagnosis: **Pheochromocytoma or Paraganglioma**
- Reported with an introduction:
 - Soft tissue, left aortic tumor, needle biopsy: Paraganglioma
 - Adrenal gland, right, tumor, excision : Pheochromocytoma
- Other descriptions related to the diagnosis
 - Tumor size
 - Lymph nodes
 - “See note”

“See Note” includes the details

- Identify what cells are present
 - Neuroendocrine cells (tumor cells)
 - Supportive cells
 - Normal cells
- Describe what the tumor cells look like
 - “Atypical” is a typical modifier which means out of the norm
 - Nuclear and cytoplasmic appearance
- Organization of the tumor cells
 - Clusters or nests
 - Diffuse or sheets
- Proteins that are expressed by the tumor cells
 - Referred to as immunostains
 - Usual panel: Synaptophysin, Chromogranin, S100, and Ki-67

More about immunologic staining

- Cells can look like other cells but the proteins they express can help distinguish them
- Improve diagnosis or classification
- Use antibodies to highlight proteins that the tumor is expressing
- Can identify possible genetic mutations
 - *SDHB*
 - *SDHA*
 - *FH*

Gross Description Section

- Physical appearance of the specimen after receiving it from the surgeon
- Measurements are always recorded before manipulation
- Appearance is described color, soft, firm, encircled, or adjacent invasion
- Carefully grossed and prepared for embedding in wax
- Wax is thinly sliced and tissue sections are placed on slides
- Slides are evaluable under the microscope after staining

Additional Sections

- Summary of Specimens: It identifies which specimens were evaluated in the report
- Pathologist name, signature, and date
- Disclaimer that a CLIA certified laboratory is where the analysis was performed

Summary

- Always find a physician to help interpret your report
- Either your physician, surgeon, or even the pathologist
- Always keep a copy for your records
- The report is full of medical jargon which can be daunting
- Ask questions if something is unclear