Cancer diagnosis in minutes: A case for more cytology in routine clinical practice

Dr. Sharrif Musoke
Mr. Razack Wasswa

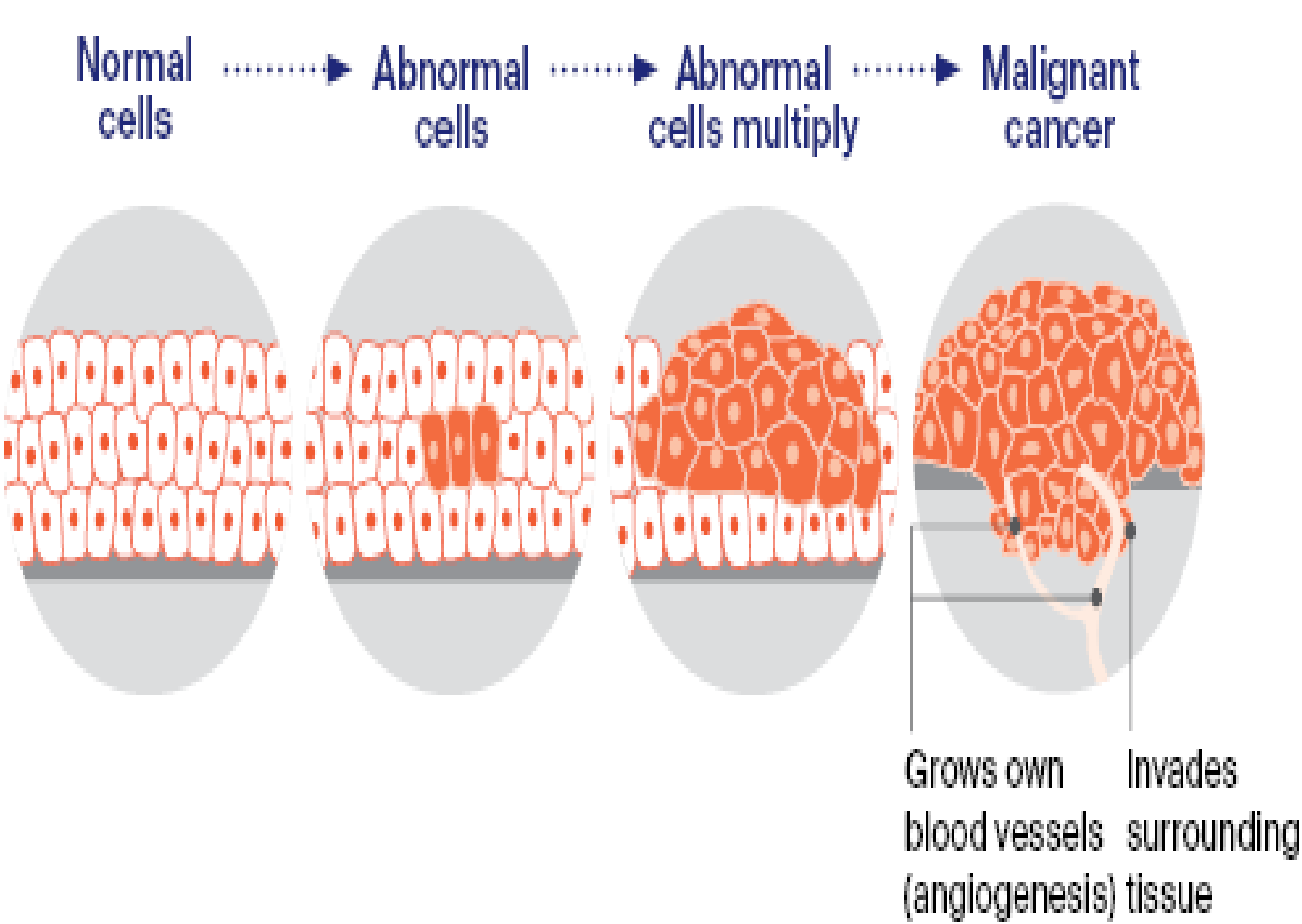
Introduction

- What is pathology?
- What is a neoplasm/swelling/tumour/mass?
- Is every swelling/tumour cancerous?
- How do we distinguish between benign and cancerous growths? Histology vs cytology
- Why cytology?

Pathology is the study of disease

What is a neoplasm/swelling/tumour/mass?

- A new growth in the body
- Starts from a mutation (permanent change) in a cell.
- This mutation gives the cell and it's 'descendants' the ability to grow faster, and delay aging and death.
- This results in a swelling composed of these 'changed' cells = tumour/'cancer'/neoplasm


Normal cells
Abnormal cells
Abnormal cells multiply
Malignant cancer
Grows own blood vessels (angiogenesis)
Invades surrounding tissue

Is every swelling/tumour cancerous?

- Benign (non cancerous) tumours grow slowly, are separated from normal tissue (do not invade) making them easier to remove by surgery alone and do not spread to other body parts
- Cancers grow rapidly, are irregular and may require more than surgery to treat

How do we distinguish between benign and cancerous growths? Histology vs cytology

- Histology/biopsy/'Akanyama': a piece of the swelling is removed/cut away and studied to make a diagnosis. It takes 24 to 72hrs

- Cytology: Only cells are required to make a diagnosis. The result is usually an instant one.

Various branches of cytology

- Exfoliative cytology: Pap smears, fluid (ascitis, pleural, urine, etc), nipple discharge, skin scrapes etc
- Interventional cytology
  - Aspiration with or without guide (superficial vs deep masses)
  - Imprint and
  - crush preps

When do we need Cytology

- To make a definitive diagnosis
- To screen for cancer
- To follow up after or during treatment
- To help in prognosis (outcomes)

Why cytology?

- **S**afe/noninvasive
- **A**ccurate
- **F**ast
- **E**fficient (cost)
- No hospitalization required

Thank you for your time