The role of artificial intelligence in breast cancer diagnosis

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Introduction

- Breast cancer tops the list of types of cancer prevalent in with more than 14,000 new cases recorded each year in Algeria, a significant proportion of which appear before the age of 40, unlike in Western countries where breast cancer appears after the age of 60 and over, according to data from the national cancer register.
- The importance of breast cancer screening is well established, whether through self-examination, by a gynecologist or via campaigns such as Mammotest. The H.U.B and the Institut Curie (Paris) have recently added a new tool to their arsenal: **AI.**

Objectifs of study

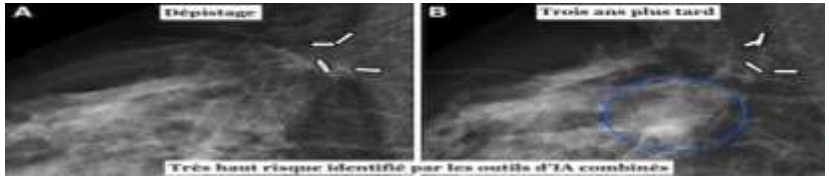
The main objective of this review is to explore the use of AI in breast cancer screening

Materials and Methods

In order to identify topics of interest for this study, various databases (Pub Med, the Foundation for Medical Research (FMR) and Science Direct) were searched for relevant articles. Different search terms were used to identify relevant literature, including "Artificial intelligence", "Machine learning",

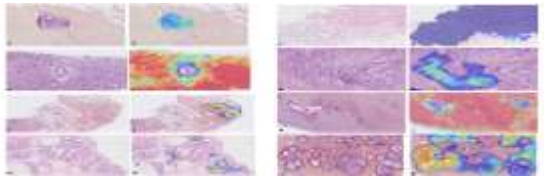
Results & Discussion

1/AI: an essential complement for radiologists



- Using deep learning, the AI was trained with images of positive and negative cases,
- AI could estimate a woman's risk of developing breast cancer in the **next three years**, based on her mammogram
- AI detects **20%** more cases of breast cancer than a double reading by two experienced radiologists .

2;Galen Breast logiciel



this program has proved effective in detecting invasive breast carcinomas with precision and specificity. The software is even capable of detecting rare types of breast cancer, and identifying prognostic factors with a high degree of accuracy.

3/ Surgery:

American researchers claim to have developed a new artificial intelligence (AI) model capable of indicating whether cancerous tissue has been completely removed during breast cancer surgery

conclusion

has been completely removed during breast cancer surgery.According to them, this could increase the chances of all cancer cells being removed, and save patients from undergoing multiple procedures

References

-Cancer : une intelligence artificielle pour détecter les cancers du sein *NPJ Breast Cancer*, 6 décembre 2022https://www.frm.org/nos-publications/actualites/cancer- une-intelligence artificielle-detecte-les-cancers-du-sein