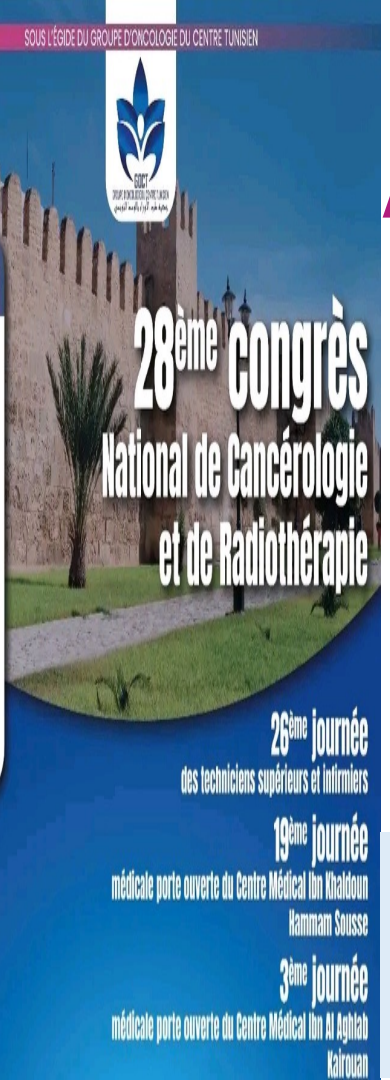
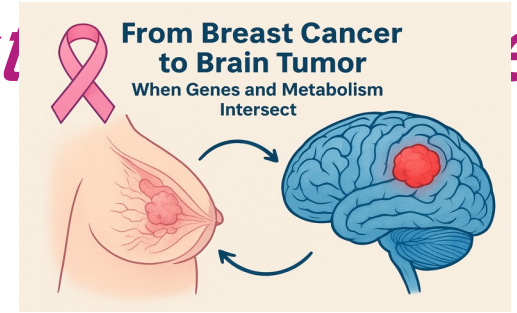


Genetic Predisposition and Metabolic Factors Linking Bilateral Breast Cancer and Subsequent Glioblast[illegible]e Report



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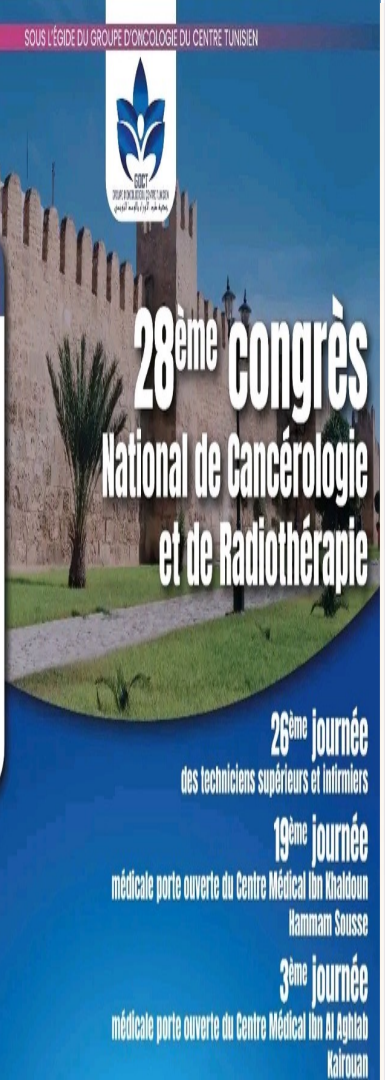
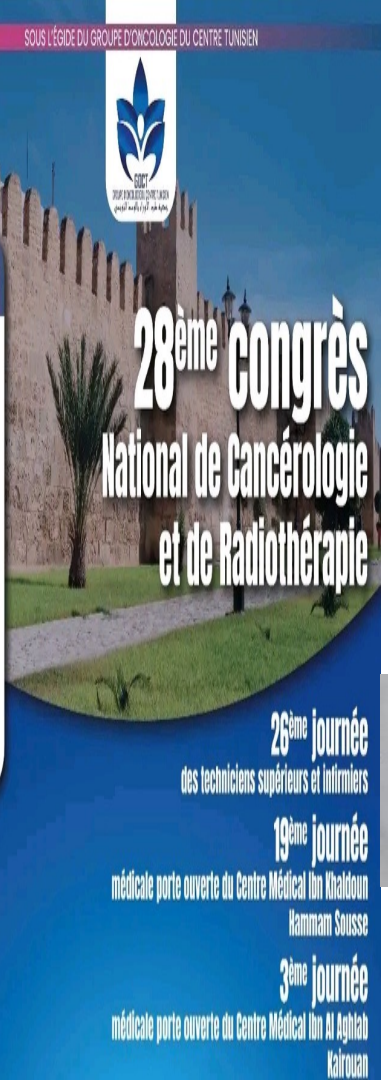


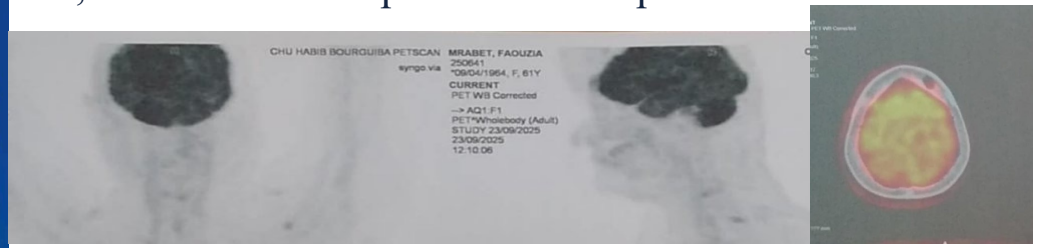
Materials and Methods : A Case Report



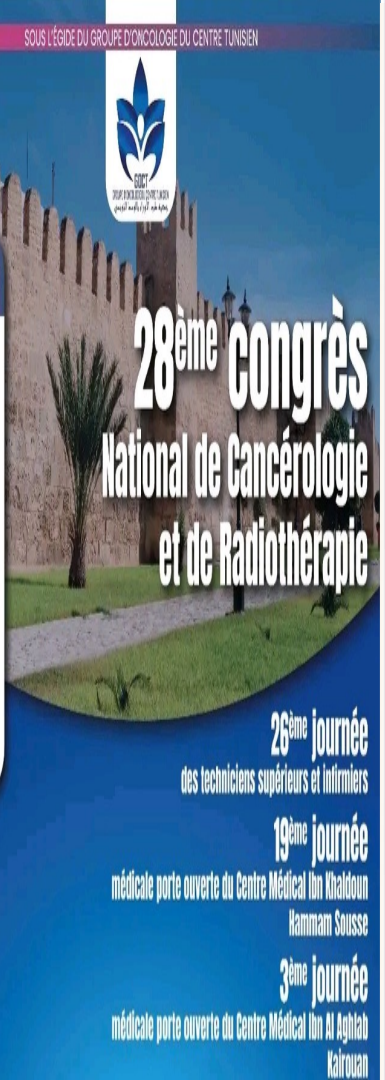
Patient: 61-year-old woman, history of right breast invasive ductal carcinoma (SBR II) diagnosed in 2005Treated with quadrantectomy, axillary lymph node dissection (4/16 nodes positive), adjuvant chemotherapy(6 cycles) and radiotherapy (6 seances) ER and PR negative.
Histopathology 2005: invasive ductal carcinoma, SBR II, ER/PR negative
Follow-up: September 2025, presenting with 3 epileptic seizures.

Investigations:

MRI brain: intra-axial parietal left mass (22×19 mm), vasogenic edema, bilateral frontal bone lesions (secondary appearance).
FDG-PET/CT: hypermetabolic hilar process, lytic bone lesions in left iliac wing and L4; no cervical or supraclavicular uptake



Bilateral mammography: no suspicious breast recurrence.
Biological findings: Hypertension, hypercholesterolemia, elevated HbA1c, and creatinine


SOUS L'ÉGIDE DU GROUPE D'ONCOLOGIE DU CENTRE TUNISIEN
28ème congrès
National de Cancérologie
et de Radiothérapie
26ème journée
des techniciens supérieurs et infirmiers
19ème journée
médicale porte ouverte du Centre Médical Ibn Khaldoun
Hammam Sousse
3ème journée
médicale porte ouverte du Centre Médical Ibn Al Aghlab
Kairouan

Results

Key Findings:

Genetic predisposition

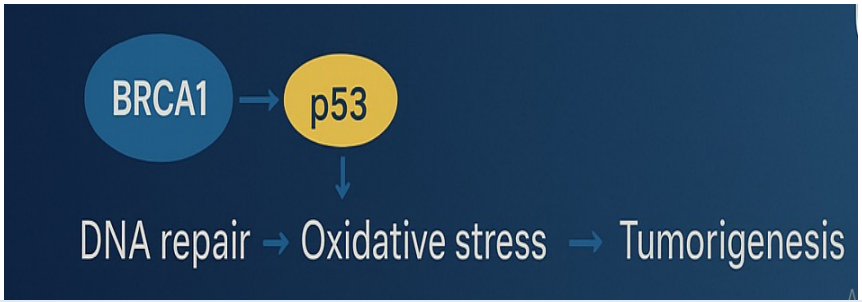
TP53 hotspot mutation (codon 273)

Elevated oxidative stress (↑MDA, ↓SOD).

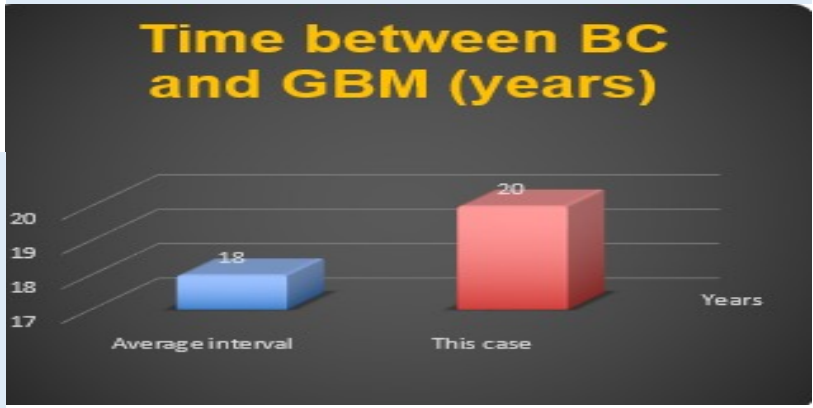
BRCA1 heterozygous mutation (c.5266dupC)

Correlations suggest a BRCA1–p53–ROS interplay promoting glioma genesis in genetically predisposed patients.

Rapid tumor progression despite Stupp protocol

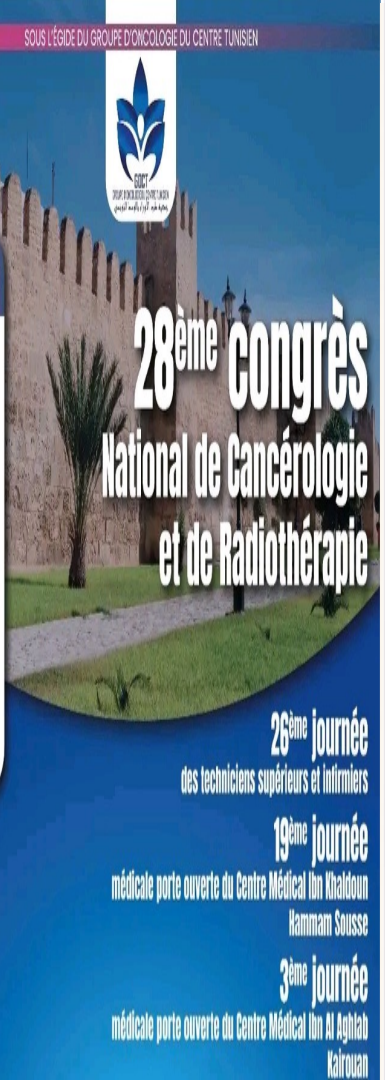


✓ **Glioblastoma occurring 20 years after breast cancer.**

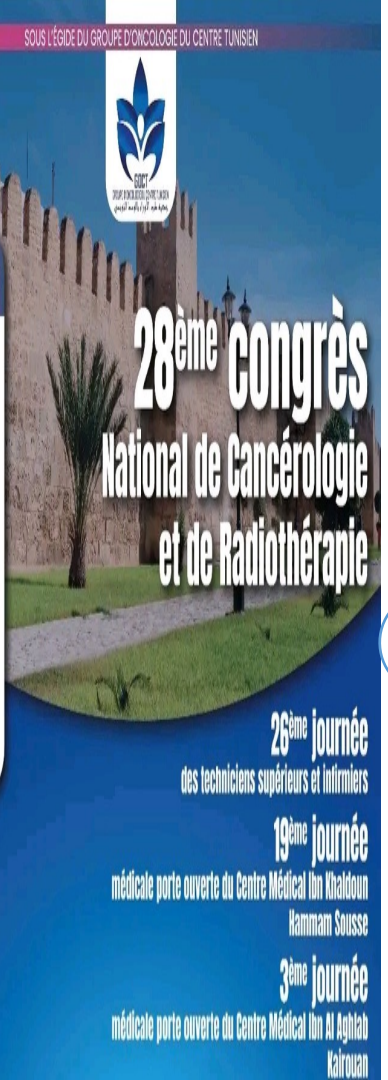


Pathophysiological Overlap:

- Altered DNA repair & tumor suppressor pathways.
- Pro-inflammatory and angiogenic microenvironment.



Conclusion & Perspectives



Conclusion

This rare association between bilateral breast cancer and glioblastoma highlights a potential shared molecular and metabolic background involving BRCA1 and TP53..

- **The latency of 20 years is consistent with reported series.**
- **Negative hormone receptor status may influence tumor biology.**
- **Metabolic disturbances may create a pro-tumoral glial microenvironment.**

Perspectives

Highlights the need for long-term surveillance of cancer survivors.

Neurological follow-up in high-risk survivors

Molecular profiling (BRCA, PTEN, p53).

Long-term cancer survivors need genetic counseling and multidisciplinary follow-up.

Metabolic health optimization (Mediterranean diet , lifestyle, cardiometabolic care) may reduce risks.

Exploring the role of Mediterranean diet & lifestyle interventions as supportive strategies in neuro-oncology.