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## **Bridging the gap in brain tumour management: Pathological insights and healthcare innovations**

### **Abstract:**

**Background:** Brain tumours present a multifaceted challenge in oncology, characterized by complex tumour behaviours and significant diagnostic dilemmas. Survival outcomes hinge on advances in pathology and treatment approaches. This presentation aims to dissect the pathological underpinnings of brain tumours, scrutinize diagnostic challenges, and evaluate the impact of recent healthcare innovations on treatment efficacy and patient survival.

### **Layout:**

1. To explore the pathological perspectives of brain tumour behaviour influencing survival rates.
2. To assess diagnostic challenges in brain tumour pathology.
3. To review the latest healthcare innovations and their implications on the management of primary brain tumours.

### **Reflection through landmark studies:**

- Analysis of brain tumour survival data from the CONCORD-3 study.
- Evaluation of evidence supporting craniotomy and spinal irradiation.
- Comparative review of clinical trial outcomes, focusing on the PARADIGM and NOA 09 trials.
  - o Investigation into the pathophysiology of brain tumour development and unrecognized treatment responses.
  - o The presentation will reveal nuanced insights into tumour behaviour and survival outcomes.
  - o It will highlight key diagnostic challenges in brain tumour pathology and strategies to overcome them.
  - o The assessment of clinical trials will offer a critical view of current and emerging therapeutic strategies.
  - o The synthesis of pathological insights with healthcare innovations, such as understanding the tumour microenvironment, provides a promising avenue towards improving brain tumour management.
  - o Emphasis on interdisciplinary collaboration and continuous innovation in diagnostics and treatment protocols is pivotal for enhancing patient survival and quality of life.

### **Implications for Healthcare Innovation:**

- o Integrating pathophysiological understanding with treatment response can lead to tailored therapeutic interventions.
- o Innovations such as precision medicine and targeted therapies that consider the tumour microenvironment could revolutionize the management of primary brain tumours.  
A multidisciplinary approach is essential to navigate the complexities of brain tumour pathology and to harness the full potential of healthcare innovations.

## **Biography**

My earliest learning came from free play, nurtured by loving parents who gave me space to explore. This instilled a love of creativity and a respect for independence. Later, structured rules taught me discipline and the consequences of actions. This experience shaped my belief that effective teaching requires love and understanding. As a university teacher, I strive to offer that support while recognizing each student's unique childhood experiences, which continue to influence their learning journey.