TERTIARY LYMPHOID STRUCTURE IN PANCREATIC DUCTAL ADENOCARCINOMA; A POTENTIAL TARGET IN AN IMMUNOLOGICALLY INERT MALIGNANCY

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Background Tertiary lymphoid structure (TLS) are immune aggregates with various degrees of organization that forms outside of secondary lymphoid organ in response to chronic inflammation, infection or tumours.1 2 TLS like secondary lymphoid organ, has defined T cell zones, B cell zones, high endothelial venules (HEV) and matured dendritic cells. They have been shown to correlate with increase patient survival in many tumours. Pancreatic ductal carcinoma (PDAC) is generally believed to be immunologically inert, low tumour mutation burden (TMB) and poor response to checkpoint blockade. Recent findings in some patients with PDAC shows significant intratumoral cytotoxic T cell infiltration and a high inflammatory signature. Since current immunotherapy aim to enhance CD 8+ T cells, we aim to investigate the contribution of humoral immunity in patients with TLS in PDAC.

Methods Tissue blocks were obtained from departmental archive and sections were cut and stained with routine H&E of all patients who underwent surgery for pancreatic cancer from 2015–2021 at Federal Medical Centre Birnin Kebbi. Serial sections were done at 5μ and four immunohistochemical stains CD 3, CD8, CD20 and PD-L1 were used. Statistical analysis was done using spss version 24.

Results A total of nine cases of PDAC were diagnosed during the period with a Male Female ratio of 1:1.25 with an age range of 40–68 years and a mean age of 57.7±8.4. Five cases (55.6%) of PDAC showed TLS with marked expression of CD20 B+ cells seen in all five cases (figures 1 and 2). Also expressed are CD 8+ cytotoxic T cells and PD-L1. Prognosis was better in patients with TLS compare with those without TLS.

Conclusions TLS can be a potential therapeutic target to explore in the future for treatment of some cancers including PDAC through induction of TLS formation in inert tumours or B lymphocyte specific target.

REFERENCES

Ethics Approval Ethical Approval was obtained for this study with Ethics number KSHREC Registration Number:104:6/2019

Consent N/A

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