NTRK1-TPM3 FUSION POSITIVE CERVICAL SARCOMA – CASE REPORT OF A NOVEL SUBSET OF GYNAECOLOGICAL SARCOMAS, AND SUCCESSFUL TREATMENT OF RECURRENT DISEASE WITH TRK-INHIBITION THERAPY

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Introduction/Background NTRK genes encode tyrosine receptor kinases (TRK), proteins promoting cellular proliferation and survival. NTRK fusions are implicated in solid tumours including gynaecological sarcomas lacking diagnostic features of any sarcoma subtype. In 2020, UK NICE approved a histology-independent TRK-inhibitor drug, larotrectinib, for treatment of such tumours in both children and adults. 

Methodology We present the case of a 49-year-old female who presented with recurrence of an NTRK1-TPM3 fusion positive cervical sarcoma nine months following primary total abdominal hysterectomy (TAH) and bilateral salpingo-oophorectomy (BSO).

Results The patient was initially referred with a large cervical mass measuring 9 cm on imaging. Biopsy demonstrated high grade malignant tumour of spindle cell morphology. She underwent TAH and BSO. Specimen microscopy revealed a poorly differentiated sarcoma composed predominantly of spindle cells, with moderate/severe pleomorphism and brisk mitotic activity. Pan-TRK immunohistochemistry was positive. FISH revealed an NTRK1 translocation and next-generation sequencing confirmed an NTRK1-TPM3 fusion. Postoperative CT revealed no residual tumour and no factors were identified affecting radiation therapy delivery. Apart from supplementing the existing institutional infrastructure, other opportunities to improve the gaps in treatment planning and delivery were identified in this study.

Conclusion Excellent durable response and improved survival was achieved. Testing for NTRK should be done and NTRK inhibitors considered for advanced gynaecological sarcomas. Future research will further assess the efficacy of TRK-inhibition therapy as primary, neoadjuvant and adjuvant treatment.

Abstracts

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CONCLUSION

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