INTRODUCTION

- Metaiodobenzylguanidine or MIBG labelled with radioactive iodine-131 has been utilised to treat advanced-stage neuroendocrine tumours not responding to standard therapy. Our centre has pioneered the MIBG theranostic services since 2013.
- We report 2 patients who received MIBG therapy for large relapsed pheochromocytoma and inoperable paraganglioma to share our initial experience and highlight the palliative role of MIBG therapy post embolization.

CASE REPORT

**Case 1:** A 56 year-old male with large right adrenal pheochromocytoma post-debulkng surgery in 2013 had increasing in size of residual tumour on follow-up which showed intense increased tracer uptake on MIBG scan. He underwent chemoembolization in December 2014. Repeat CT scan revealed no significant change in tumour size (5.2 x 5.3 cm) despite larger central necrosis. He then received MIBG therapy twice (15.4.2015 and 14.4.2016). Serial CT scans showed tumour size reduction (2.9 x 4.7 cm) and later stable disease. Latest 24-hour urine metanephrines in May 2018 were still raised but decreasing in trend.

**Case 2:** A 50 year-old male with large subhepatic paraganglioma complicated with myocardial infarction in 2017 had undergone 3 sessions of transarterial tumour embolization. Serial CT scan showed slight tumour size reduction (9.0 x 8.7 cm). Collective surgical opinion concluded that resection will be high risk and challenging. Functional imaging studies showed concordant findings. He then received MIBG therapy on 23.11.18. Sonographic evaluation in March 2019 showed the tumour measuring 6.1 x 8.3 cm. Latest Chromogranin A level (15.5.2019) showed marked reduction (2046 → 879 ng/mL).

At present, both patients remained asymptomatic and had no overt major MIBG therapy side effects i.e. myelosuppression and haematological toxicity.

DISCUSSION

- Indications and documented usage of MIBG therapy are (a) inoperable pheochromocytoma, paraganglioma and carcinoid tumour, (b) stage III/IV neuroblastoma, (c) recurrent medullary thyroid cancer and (d) malignant or metastatic pheochromocytoma and paraganglioma. [1, 2]
- Although some patients with limited disease and soft tissue rather than bone metastases could achieve partial or complete response and disease stabilization, MIBG therapy in general has been only palliative in paraganglioma and pheochromocytoma. [2, 3]
- Prior chemotherapy was noted to be a significant predictor of poor overall survival probably because those who received chemotherapy had large and rapidly progressive tumours. [4, 5]
- However, to our best knowledge, at present no literature available on the combination use of embolization and MIBG therapy for primary paraganglioma and pheochromocytoma.

CONCLUSION

- MIBG therapy post embolization of primary lesion in large relapsed pheochromocytoma and inoperable paraganglioma could potentially offer palliative benefit as seen in this case report, hence should be offered to patients both of our patients showed stable disease on follow-up with no overt major therapy side effects observed.

References: