Case report

Response to sunitinib (Sutent) in chemotherapy refractory clear cell ovarian cancer

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1. Introduction

Clear cell ovarian cancer (OCCA) is an uncommon subtype of epithelial ovarian cancer accounting for less than 10% of clinical cases in most reported cohorts (Fujiiwara et al., 2016). Whereas the precursor cell of the more common high grade serous ovarian (HGS) cancer has been hypothesised to be secretory epithelium of the distal fallopian tube the precursor of clear cell ovarian cancer is less clear. The recent association of clear cell histology (Wentzensen et al., 2016) with previous areas of endometriosis has pointed towards an entirely different cell of origin and indeed molecular characterisation has confirmed this fundamental disparity between HGS and OCCA.

The poor response rates to cytotoxic chemotherapy in the setting of advanced disease in the order of 10–30% (Magazzino et al., 2011) and molecular characterististics of these tumours (Anon, 2013) have prompted investigators to propose treatment of OCCA with sunitinib maleate, a multi-active RTK inhibitor with selectivity for PDGFRα, VEGFR and c-MET, as a potential therapeutic option in this disease (Friedlander et al., 2016). To our knowledge only one previously published report demonstrating activity of sunitinib in clear cell ovarian cancer exists (Anglesio et al., 2011). This report illustrates a response to sunitinib in a patient with parenchymal hepatic deposits and chemotherapy refractory OCCA.

1.1. Case description

A 59 year old patient was discussed at the gynaecologic oncology multi-disciplinary meeting having presented with abdominal distension, with radiological features of an ovarian malignancy. A CT scan demonstrated a complex 16 cm × 13 cm mass arising in the pelvis from the right ovary with a large tumour burden and peritoneal deposits. The histopathologic assessment of the tumour revealed a FIGO Stage III A2 clear cell ovarian carcinoma by virtue of omental involvement. There was no background of co-existing endometriosis noted. A course of adjuvant chemotherapy with carboplatin and paclitaxel was prescribed but following the first cycle of platinum doublet therapy the patient developed a significant myocardial infarction, and a worsening of her performance status to ECOG 2. Adjuvant treatment was then withheld and the patient was placed on outpatient surveillance.

15 months later she reported increasing lethargy and abdominal distension. A CT scan performed at this time demonstrated a recurrence of her disease with multiple parenchymal liver deposits, the largest measuring 3 cm in diameter, peritoneal deposits and lymphadenopathy at the porta hepatis. A modified retreatment regiment of platinum containing chemotherapy with nitrate cover was utilised. The patient tolerated this well with no further cardiac events. Unfortunately after 2 cycles a re-staging CT demonstrated progression in the size of the nodal disease and hepatic deposits - the largest lesion measuring 5.5 cm in diameter.

At this point sunitinib was obtained and the patient agreed to self-fund its off license use in the setting of chemotherapy refractory disease. Sunitinib was commenced at a dose of 50 mg od in the intermittent dosing schedule as per the Motzer et al. pivotal study in renal cell carcinoma (Motzer et al., 2007). After four weeks of treatment the main toxicity was grade I-II fatigue. Unfortunately the patient was then admitted with rectal bleeding and the sunitinib withheld. Colonoscopy and Oesophagogastric duodenoscopy failed to identify a bleeding focus, and the bleeding settled with conservative management. However given the possible contribution of sunitinib, a decision was made that it should be discontinued. During

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Informed consent for publication of this case was obtained in writing from the patient prior to publication.
None of the authors has any conflicting interests regarding this manuscript.

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