

Review of: "[Case Report] Clear Cell Carcinoma of the Ovary with Disseminated Intravascular Coagulation and Haemoperitoneum with Tumour Perforation"

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Potential competing interests: No potential competing interests to declare.

I would like to thank the handling editor for offering me the opportunity to review the manuscript entitled "Clear Cell Carcinoma of the Ovary with Disseminated Intravascular Coagulation and Haemoperitoneum with Tumour Perforation" authored by Rathnasekara and colleagues, which is currently under consideration for publication in *Qeios*. I would also like to commend the authors for their scholarly work, which presents an interesting and informative case report.

The manuscript currently peer review reports the case of a 34-year-old woman who presented with hemoperitoneum and acute disseminated intravascular coagulation (DIC) following the rupture of an ovarian clear cell carcinoma. Clear cell carcinoma is a rare subtype of ovarian epithelial carcinoma known to have thrombogenic complications. While DIC is a recognized complication of ovarian cancers, acute DIC with bleeding has not been previously reported with clear cell carcinoma.

In this case, the patient had a right adnexal cyst and developed thrombocytopenia, anaemia, and abdominal pain. Imaging confirmed rupture of the right ovarian tumour with intraperitoneal bleeding. Her platelet counts rapidly declined, and she had evidence of microangiopathic haemolytic anaemia. Rotational thromboelastometry revealed consumption coagulopathy consistent with DIC. She underwent urgent surgery where a bilateral salpingo-oophorectomy was performed. Histopathology confirmed a right clear cell carcinoma without lymphovascular invasion. Her DIC resolved after tumour resection, implicating the ovarian cancer as the trigger. She later developed a pulmonary embolism that required anticoagulation.

The authors conclude that clear cell carcinoma can be associated with acute DIC and haemorrhage, a complication previously unreported with this subtype. This case highlights the need to consider DIC and bleeding as potential complications of clear cell ovarian cancers. Further studies are needed to elucidate the pathogenesis of DIC in these patients.

This case report describes a scientifically and technically sound study of a rare clinical presentation of ovarian clear cell carcinoma. The authors have adhered to ethical principles by anonymizing the patient's information. A key strength is the detailed clinical and diagnostic workup provided to elucidate the pathogenesis of DIC in this patient. The rotational thromboelastometry findings are particularly valuable in objectively demonstrating the consumption coagulopathy.

The manuscript provides an important addition to the literature as the first reported case of clear cell carcinoma associated with acute bleeding and DIC. While DIC is an established complication of ovarian cancers, such severe bleeding has not been previously described with the clear cell subtype specifically. This represents a novel clinical finding that expands our understanding of the spectrum of coagulation abnormalities that can occur with these tumours.

The clarity of the causal relationship between tumour rupture, DIC, and haemorrhage is a highlight. The resolution of DIC after tumour resection strongly implicates the cancer as the trigger. This level of pathological correlation is unique among reports of ovarian cancers with coagulopathies.

Overall, this case increases awareness of a serious haematological complication of clear cell carcinoma that may require anticipatory management. It paves the way for additional research into the pathogenesis and optimal treatment strategies. If published, the manuscript would make a meaningful contribution to the gynaecologic oncology and haematology literature. The authors have approached the subject rigorously and their report warrants serious consideration by the editorial board.

While the manuscript provides valuable insights, there are several areas that could be refined to further augment the quality and impact of the work prior to possible publication. Here are some respectful suggestions that could potentially improve the manuscript if the authors choose to implement them:

Abstract:

- The abstract clearly summarizes the case. The authors could consider adding a sentence or two about the implications and importance of the findings to enhance the impact.

Introduction:

- The introduction nicely contextualizes clear cell carcinoma and its associations with coagulopathy. The authors could cite one or two more references here to further strengthen the background.

Case Presentation:

- A brief description of the patient's relevant medical and family history could help set the stage and provide useful clinical context early on.
- Adding a timeline infographic could visually summarize the sequence of events for readers.
- The figures are appropriate and supplement the text well. The authors could potentially add a table summarizing the patient's lab results over time to further highlight the rapid decline.
- Including specific lab reference ranges when reporting the patient's test results would allow readers to better interpret the degree of deviation from normal.
- The authors could elaborate on the differential diagnosis they considered based on the initial presentation and how they

arrived at the diagnosis of ovarian cancer with DIC. This would highlight their clinical reasoning process.

- Adding details about the patient's post-operative course, complications, and length of hospital stay would help readers understand the morbidity and recovery associated with this presentation.

Discussion:

- The authors note that DIC is a recognized complication of ovarian cancer, but uncommon with clear cell carcinoma specifically. It would be informative to comment on why this histological subtype may confer increased thrombotic risk.
- Commenting on potential treatment considerations specific to managing such cases could provide clinical relevance for readers.
- Discussion of alternative explanations for the findings (despite the tumour resection resolving DIC) would demonstrate scholarly consideration of other possibilities.
- The authors may consider discussing limitations in their approach to this case to increase the transparency and credibility of the case report.

Conclusion:

- The conclusion could be expanded to discuss the prognostic implications of this type of presentation, as well as specific follow-up care that may be warranted.

Overall:

- The authors should consider including a statement that informed consent was obtained by the patient for publication of the case.

In conclusion, I would like to reiterate my appreciation to both the editor and the authors for the opportunity to review this intriguing manuscript. I trust that my suggestions will help enhance the clarity, credibility, and depth of this important work. I look forward to seeing the revised version of the manuscript and wish the authors success in their ongoing research endeavours.