

2022-RA-980-ESGO

## AURANOFIN AS A POTENTIAL ANTICANCER DRUG IN EPITHELIAL OVARIAN CANCER

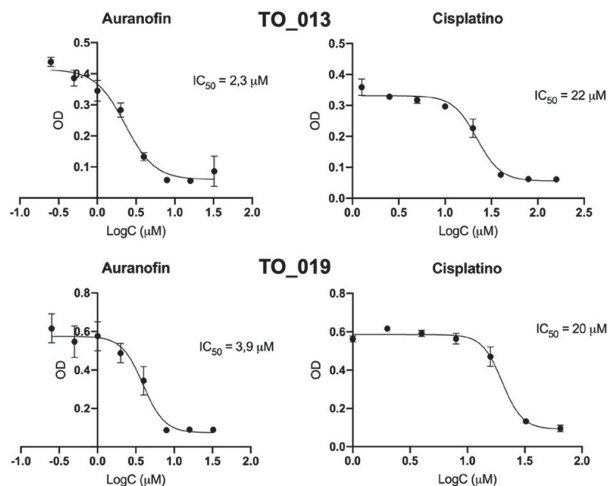
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10.1136/ijgc-2022-ESGO.611

**Introduction/Background** Ovarian Cancer (OC) is the most lethal gynecological disease. Surgery plus chemotherapy is the cornerstone of treatment. Eighty percent of patients who achieve full remission with first-line platinum-based therapy will develop a relapse due to OC platinum resistance. Auranofin (AF) has shown a significant antitumor activity both in vivo and in vitro studies in cancers, such as breast cancer. The present study assesses the AF cytotoxic activity in epithelial OC. The primary objective is to evaluate AF effect on cellular pathways of primary epithelial OC cell cultures. Secondary object was to compare the response to AF versus cisplatin in ex-vivo primary OC cultures.

**Methodology** We analyzed primary *ex-vivo* OC cultures isolated by mechanical and enzymatic methods, obtained from 20 patients who had a primary cytoreduction for advanced OC between December 2020 and April 2021, versus three-dimensional spheroids from cell lines (A2780 and SKOV3). Cultures were treated with AF and cisplatin.

**Results** Subsequent treatment with increased AF concentrations on both primary ex vivo OC cultures and spheroids of the A2780 line showed that AF is able to inhibit both cellular cultures in a dose-dependent way. AF interferes with signaling pathways that play an important role in inflammation, chemoresistance and cell proliferation. Both in primary cultures and in spheroids AF reduces nuclear factor kappa-light-chain-enhancer of activated B cells (NF- $\kappa$ B) and phosphorylated protein kinase B (pAKT). Moreover, AF interferes on protein kinase C iota (PKC $\iota$ ) signaling in primary ex vivo cultures, while on the spheroids it decreases the expression of hypoxia inducible factor (HIF) and CA-125 levels. Finally, cultures of ex vivo OC are more sensitive to AF than to cisplatin, with relative IC<sub>50</sub> values of AF 3 to 9 times lower than those of cisplatin.



Abstract 2022-RA-980-ESGO Figure 1

**Conclusion** Our results suggest that AF may represent a new option in OC therapy.

2022-RA-985-ESGO

## PREDICTORS OF RECURRENCE IN ADULT GRANULOSA CELL TYPE OVARIAN CANCER: A RETROSPECTIVE COHORT STUDY

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10.1136/ijgc-2022-ESGO.612

**Introduction/Background** Adult granulosa cell type (AGCT) ovarian cancer represents up to 5% of ovarian cancer. Although outcomes are generally favourable, a small group of patients experience disease recurrence. This typically occurs 5 – 10 years after initial treatment and has a poor prognosis. The peritoneal cancer index (PCI) score is used to predict prognosis in patients with epithelial ovarian cancer but has not been validated for AGCT ovarian cancer. This study aims to investigate predictors of recurrence (including PCI score) in patients with AGCT at a London Tertiary hospital.

**Methodology** This retrospective cohort study analysed the data of all patients with confirmed AGCT ovarian cancer treated at Guy's and St Thomas' NHS Foundation Trust between January 2001 and November 2021. Data were extracted from patient notes including age and FIGO stage at diagnosis, alongside PCI score at both initial surgery and subsequent surgeries for disease recurrence. All deaths were noted, including deaths related to ovarian cancer

**Results** 45 patients were identified, of which 9(20%) experienced disease recurrence. 4 of these patients experienced disease recurrence three times. The mean age at diagnosis of patients without disease recurrence was 47.19 (95%CI 42.20, 52.20) and mean PCI score 0.06 (95%CI -0.046, 0.166), compared to 57.0 (95%CI 46.20, 67.80) and 1.78 (95%CI 0.07, 3.49) for patients with disease recurrence. Table 1 provides a breakdown of the FIGO staging in each group. There were 0 ovarian cancer related deaths in patients without recurrence, compared to 4(40%) in patients with recurrence.

Abstract 2022-RA-985-ESGO Table 1 Comparison of patients with and without disease recurrence

	no recurrence	recurrence
<b>FIGO staging</b>		
1	0	2
1a	29	1
1c	3	1
1c1	1	0
1c2	2	0
2	0	1
2b	1	0
3c	0	2
Unable to confirm stage	0	2
<b>total</b>	<b>36</b>	<b>9</b>
<b>Average age at diagnosis</b>	<b>47.19 ± 5.08</b>	<b>57 ± 10.8</b>
<b>PCI average</b>	<b>0.06 ± 0.108</b>	<b>1.78 ± 1.71</b>
<b>Deaths</b>	<b>1</b>	<b>6</b>
<b>Deaths related to cancer</b>	<b>0</b>	<b>4</b>

**Conclusion** Disease recurrence was more likely in patients with FIGO stage greater than 1a. However, one case of recurrence was noted in a patient with 1a disease. PCI score was higher in patients that later experienced recurrence, although not statistically significant. Future research should examine if PCI score can predict recurrence in larger patient populations.