RWD13

Treatment Pathways and Outcomes of Advanced Ovarian Cancer Patients Who Are Underrepresented in Trials

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Introduction

- **Clinical trials are gold-standard** for treatment evaluation, but **low external validity** is a concern.
- **Patients from key sociodemographic groups,** such as those aged >6**5,** and Black, Asian and minority ethnic (BAME), **are generally underrepresented in clinical trials**, leading to a gap in evidence for treatment decisions[1-3].
- According to a scoping review, **BAME groups and those living in socioeconomically deprived/disadvantaged areas** were more likely to receive **suboptimal care** deviating from treatment guidelines[4] and p**oorer outcomes** have been observed among these groups[5].
- In ovarian cancer, an additional **understudied** group includes those who do not have **cytoreductive surgery**[6-7].

Objective

1. To examine the **treatment pathways** and **outcomes** of **ovarian cancer** patients in the UK who are generally **underrepresented in clinical trials**.

Methods

Retrospective descriptive study using de-identified electronic health records for **advanced-stage (FIGO stages 3 and 4) primary ovarian cancer** patients based on ICD-10 codes (**C56x, C57.0x, C48x**) diagnosed between 2015 and 2023 from UK NHS partners collated as part of the Arcturis UK Dataset (**N=1,025**).

The following subgroups of interest were defined:

1. Aged >65
2. Identifying from BAME group
3. With Index of Multiple Deprivation (IMD) deciles 1-3 (30% most deprived)
4. With ECOG score ≥2
5. With moderate to severe non-cancerous comorbidity, Charlson Comorbidity Index (CCI) ≥3
6. With no cytoreductive surgery

For each subgroup:

- Systematic anti-cancer therapeutics (SACT) summarised using proportions and duration as median and range,
- Incidence of time to next treatment (**TTNT**) as a marker of disease progression and overall survival (**OS**) estimated from initiation of first-line therapy and maintenance therapy using Kaplan-Meier (KM) curves and summarised with median survival time (including 95% confidence intervals). Subgroups with fewer than 20 individuals at time zero are not displayed in the KM curves.

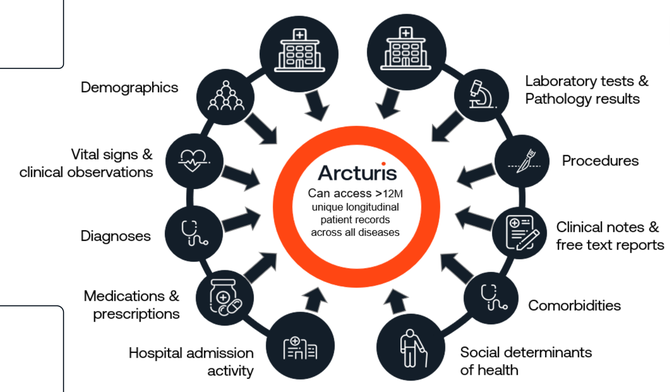

Figure 1. Types of data included in the Arcturis UK Dataset.

It is important to note that comparisons between the curves of subgroups in the KM plots should not be drawn as groups are not independent.

Results

- Subgroups varied considerably in size (see Tables 1a and 1b).
- Median TTNT from initiation of first-line therapy ranged 0.79-1.30 years, with the **shortest interval (0.79-0.95 years) among patients with ECOG score ≥2 and those with no cytoreductive surgery**.
- Median time to death generally fluctuated around 1.83-2.44 years from initiation of first-line therapy across most subgroups. **Shorter survival (1.08-1.61 years)** was observed among patients with **ECOG score ≥2 and those with no cytoreductive surgery**.

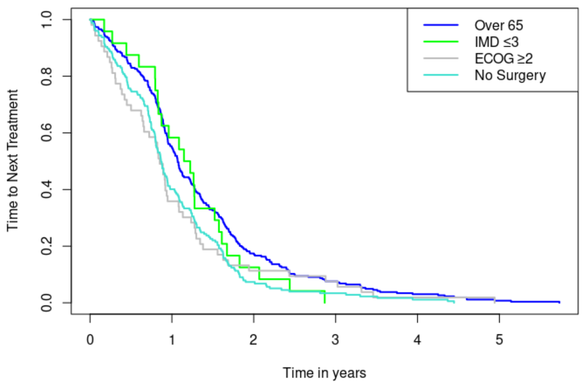

Figure 2a. KM plot of TTNT following first-line chemotherapy based on English trusts data.

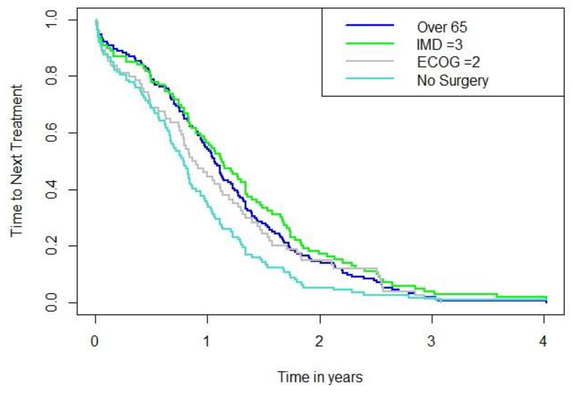

Figure 2b. KM plot of TTNT following first-line chemotherapy based on Scottish trust data.

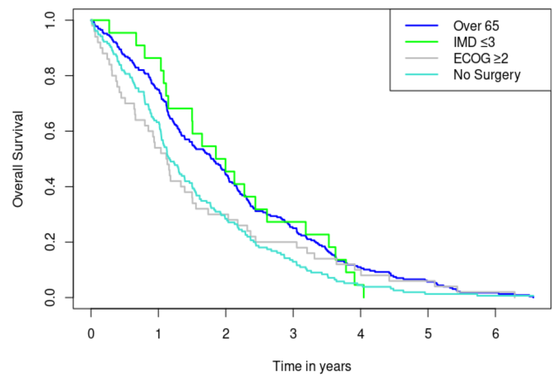

Figure 3a. KM plot of OS following first-line chemotherapy based on English trusts data.

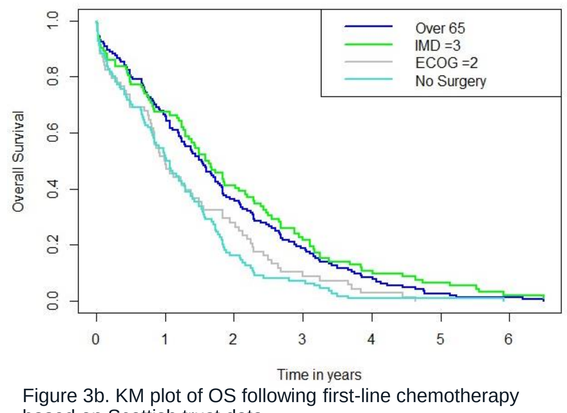

Figure 3b. KM plot of OS following first-line chemotherapy based on Scottish trust data.

- Endpoint analyses results from initiation of first-line maintenance were limited by small cohort size across many of the subgroups, as such not presented here.
- Receipt of first-line therapy was **lowest** among patients with **more comorbidities** in both England and Scotland. In Scotland, **lower** levels were also observed among those **older** patients and with **no cytoreductive surgery**, while in England, among patients living in **socioeconomically deprived/disadvantaged areas**. Combination of carboplatin and paclitaxel was consistently the most common regimen.
- Across subgroups, there was considerable variation in the frequency of first-line maintenance, generally fluctuating between 15-25% but consistently bevacizumab was the preferred regimen. Interestingly, in Scotland, a **lower** level was observed among patients with **no cytoreductive surgery**, while in England, the **opposite** was observed (8.6% versus 32.3%, respectively).
- Approximately half of patients received second-line therapy, with limited second-line maintenance.

Table 1a. SACT received by subgroup based on English trusts data.

	Subgroup											
	Age >65 (N=394)		BAME (N=10)		IMD ≤3 (N=40)		ECOG ≥2 (N=78)		CCI ≥3 (N=11)		No surgery (N=254)	
Regimen	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])
First line of therapy	339 (86.0%)	126 [0-299]	5 to 10	149 [22-180]	27 (67.5%)	140 [28-232]	67 (85.9%)	127 [0-271]	6 to 11	112.5 [84-164]	214 (82.3%)	108.5 [0-348]
First line of therapy maintenance	107 (27.2%)	220.5 [0-1274]	<5	294 [170-380]*	7 (17.5%)	229 [89-446]	15 (19.2%)	238 [20-1029]	<5	224 [220-230]*	84 (32.3%)	220.5 [0-1707]
Second line of therapy	189 (48.0%)	106 [0-1296]	8 (80.0%)	102.5 [41-223]	20 (50.0%)	86.5 [21-226]	28 (35.9%)	79.5 [7-950]	<5	74.5 [10-170]*	111 (42.7%)	85 [0-903]
Second line of therapy maintenance	30 (7.6%)	147 [0-1433]	<5	192 [50-590]*	<5	147 [90-210]*	<5	418 [160-570]*	0	0	10 (3.8%)	137 [56-1433]

Where counts <5, rounded figures used for range for censoring purpose.

Table 1b. SACT received by subgroup based on Scottish trust data.

	Subgroup											
	Age >65 (N=248)		BAME (N=10)		IMD ≤3 (N=147)		ECOG ≥2 (N=77)		CCI ≥3 (N=34)		No surgery (N=197)	
Regimen	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])	N (%)	Duration of therapy (days) (median [range])
First line of therapy	170 (68.5%)	119 [0-308]	5 to 10	146 [0-212]	109 (74.1%)	119 [0-243]	70 to 77	133 [0-277]	17 (50.0%)	134 [0-212]	115 (58.4%)	105 [0-277]
First line of therapy maintenance	35 (14.1%)	292 [0-673]	<5	264 [210-320]*	27 (18.4%)	233 [20-524]	18 (23.4%)	211.5 [0-563]	0	0	17 (8.6%)	152 [20-434]
Second line of therapy	85 (34.3%)	105 [0-1240]	6 (60.0%)	129.5 [49-693]	59 (40.1%)	105 [0-420]	36 (46.8%)	77.5 [0-1240]	10 (29.4%)	63 [0-154]	50 (25.4%)	69.5 [0-420]
Second line of therapy maintenance	21 (8.5%)	147 [0-466]	<5	10.5 [0-120]*	18 (12.2%)	119 [21-966]	10 (13.0%)	80.5 [0-560]	<5	93.5 [20-170]*	10 (5.1%)	83.5 [0-421]

Where counts <5, rounded figures used for range for censoring purpose.

Conclusions

- **Lower levels of SACT receipt were observed compared to previous RWD studies** of ovarian cancer patients[8-11] in some subgroups.
- **Choice of SACT regimens** at first-line therapy and first-line maintenance **were consistent** with previous studies and in line with treatment guidelines.
- **Survival estimates here were considerably shorter**, compared to previous trial and RWD evidence pertaining to ovarian cancer patients (2.5-3.7 years)[12].
- A previous RWD study, suggested that **ethnic disparities in ovarian cancer outcomes may be in part explained by the prognostic role of CCI and cytoreductive surgery[13]**.
- The small numbers of patients across subgroups receiving first-line maintenance preclude interpretation of outcomes.

Acknowledgements

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