

Audit of Ovarian Cancer in Northern Ireland

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Background

- In Northern Ireland (N.I) an average of 211 patients are diagnosed with ovarian cancer each year¹
- Median age at diagnosis is 65 years old
- An average of 128 women die from ovarian cancer each year in N.I
- Ovarian cancer however is not a single disease but comprises distinct subtypes, the outcomes of which vary significantly^{2,3}
- In 2018 a funded ovarian cancer feasibility pilot was launched in England with the aim to extend to all four UK nations⁴

Aims and Objectives

- **Audit the ovarian cancer diagnostic and treatment pathway of patients diagnosed between 2014 and 2017 in N.I**
- **Report on the disease outcomes based on specific ovarian cancer subtypes**

Methodology

- **Inclusion criteria**
 - All patients diagnosed with ovarian, fallopian tube and primary peritoneal cancer in N.I between 2014 and 2017
- **Exclusion criteria**
 - Patients with non-invasive epithelial tumours (Borderline tumours) in same time frame
- **Data collection**
 - Electronic data sources including the regional Cancer Patient Pathway system (CaPPS), the N.I Electronic Care Record (NIECR), The Legacy Oncology System (COIS) and the laboratory pathology system (LabCentre)
- **Statistical analysis**
 - Observed 5-year survival and time to disease recurrence or progression was estimated by Kaplan Meier method using XLSTAT software

Results
Diagnosis and
staging

Patient population Year of diagnosis	Patients
2014	149
2015	159
2016	154
2017	141
All years	603

Basis of diagnosis	Patients
Pathologically verified	589 (98%)
No pathological verification (Clinical diagnosis)	14 (2%)
Total	603

Results
**Histological
subtype**

Invasive epithelial carcinoma: Histological subtype

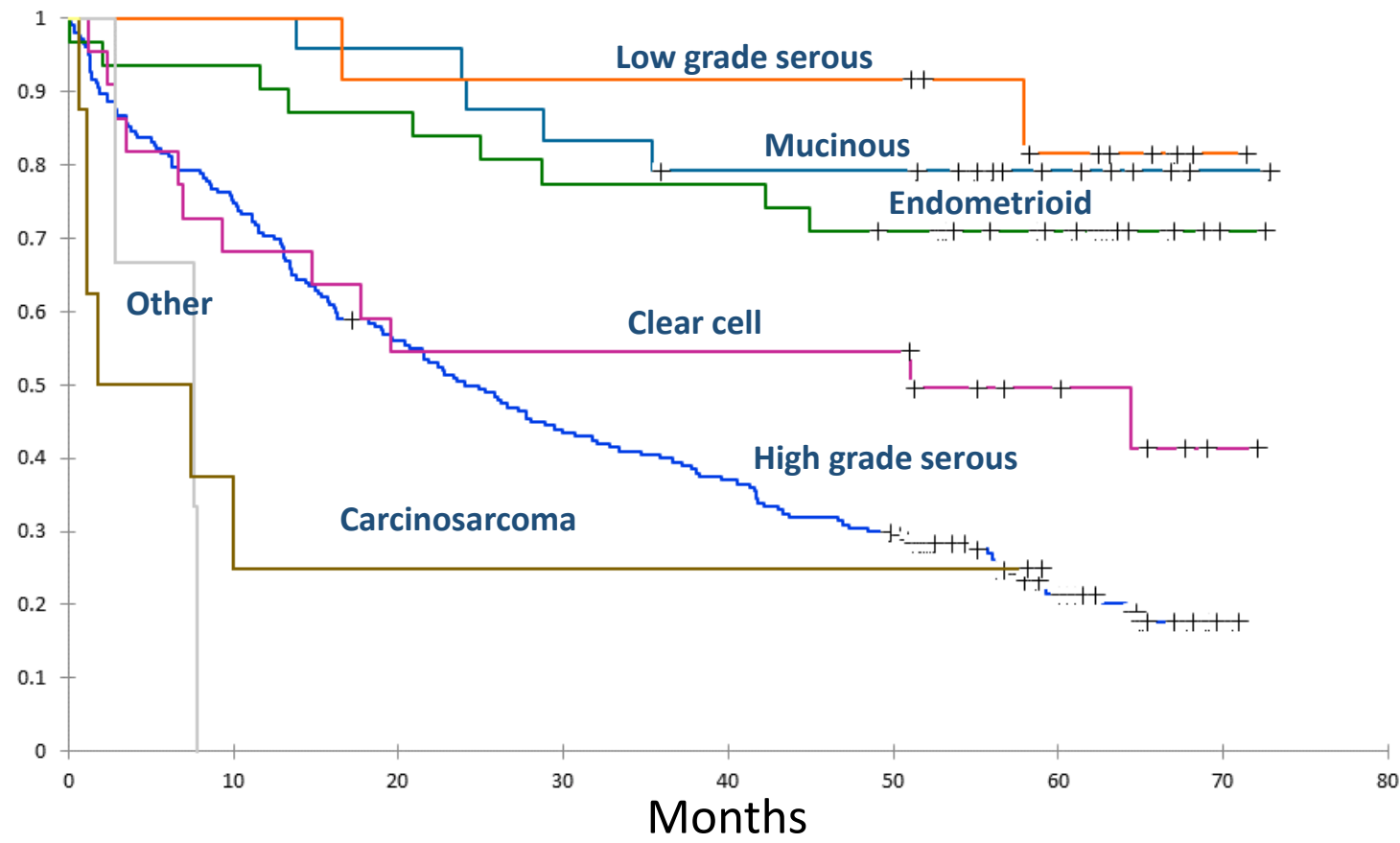
High grade serous carcinoma (HGSC)	392 (69%)
Carcinosarcoma	15 (2.5%)
Clear cell carcinoma	40 (7%)
Endometrioid carcinoma (Grade 1-3)	64 (11%)
Mucinous carcinoma (Grade 1-3)	48 (8%)
Low grade serous carcinoma (LGSC)	21 (4%)
Other	9 (1%)
Neuroendocrine carcinoma (3), Undifferentiated carcinoma (2), Thyroid-type carcinoma arising in dermoid cyst (2), Squamous cell carcinoma (1), Brenner tumour malignant (1)	
Total	589

Results
Stage at
diagnosis

Invasive epithelial carcinoma: FIGO Stage	Patients
FIGO Stage 1	134 (22.7%)
FIGO Stage 2	50 (8.5%)
FIGO Stage 3	290 (49%)
FIGO Stage 4	89 (15%)
Stage unknown	26 (4.4%)
Total	589

Results
5-year observed survival by histological subtype

Survival probability



LGSC 81%
Mucinous 80%
Endometrioid 70%

Clear Cell 49%
HGSC 21%

Results
HGSC
treatment

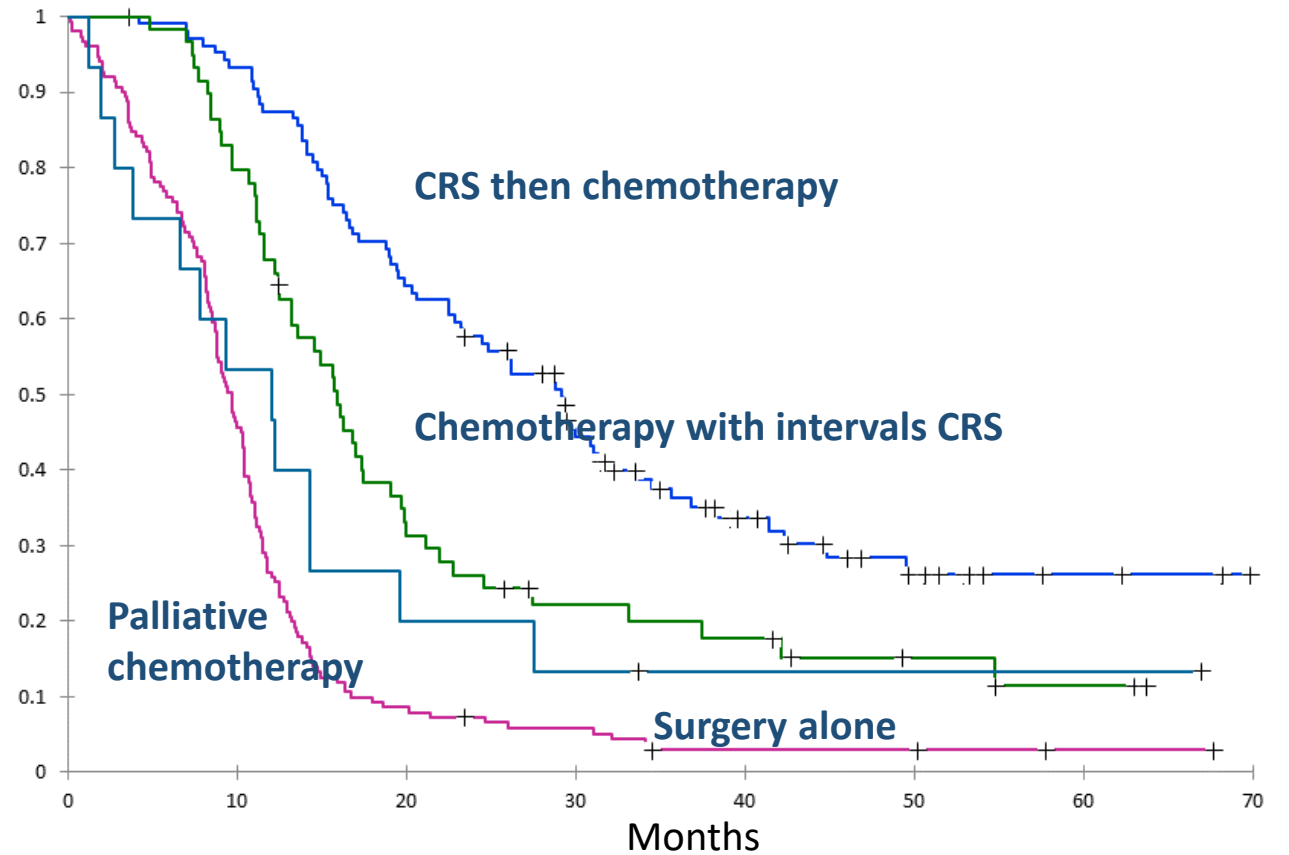
High grade serous carcinoma: treatment modality	Patients
Primary cytoreduction surgery with chemotherapy	105 (27%)
Chemotherapy with interval cytoreduction	59 (15%)
Primary chemotherapy alone	151 (38%)
Cytoreduction Surgery alone	15 (4%)
Hormone therapy alone	1 (<1%)
Supportive palliative care	61 (16%)
Total	392

Advanced HGSC: Cytoreduction surgery outcomes	Patients
Complete (R0)	60 (48%)
Optimum (R1 <1cm residual disease)	44 (35%)
Sub-optimum (R2)	22 (17%)
Total	126

Probability of
disease
recurrence
or progression

Results

HGSC recurrence
or progression
following 1st line
treatment



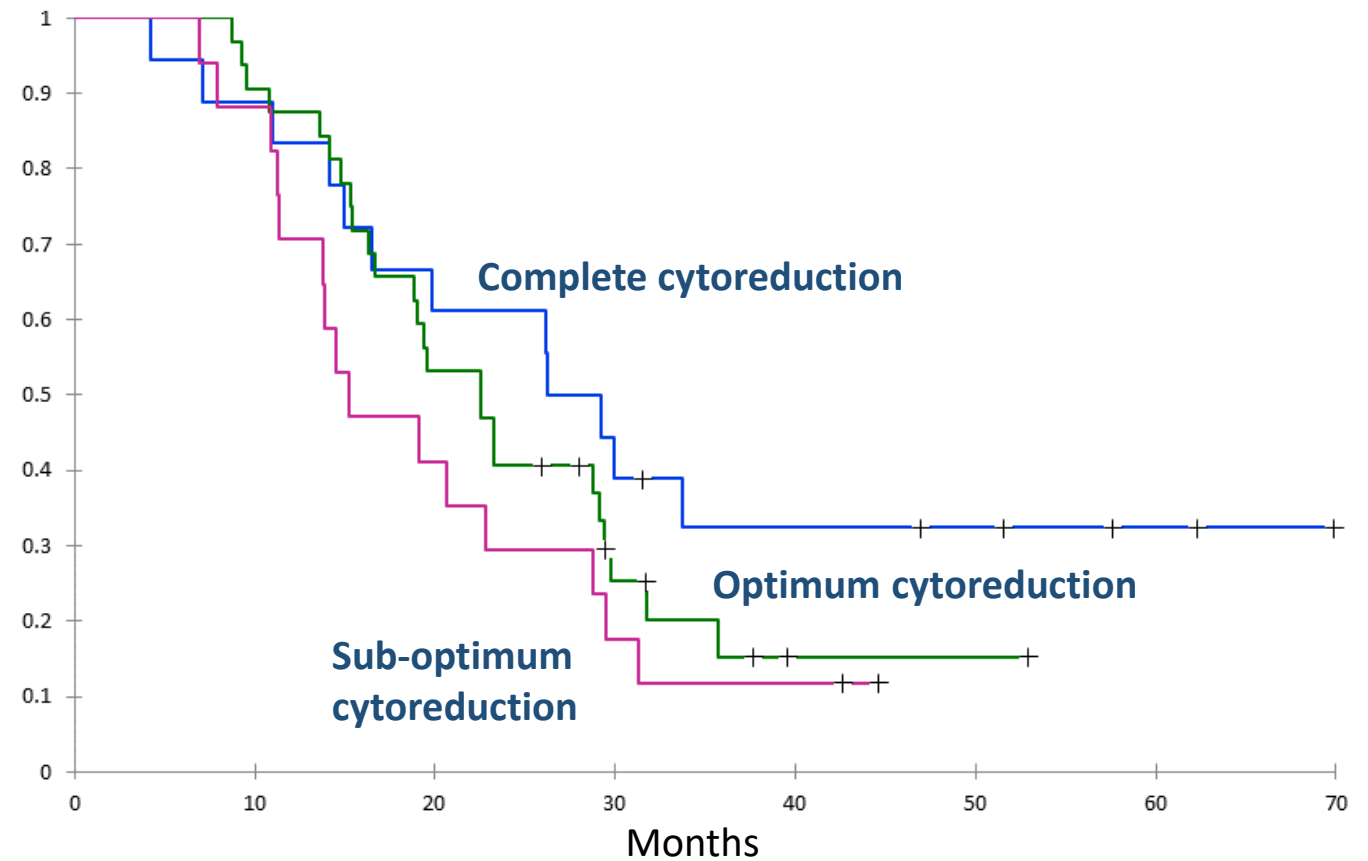
Median time to disease progression

- Overall survival = 24 months
- Primary surgery = 29 months
- Interval surgery = 16 months
- Surgery alone = 11 months
- Palliative chemotherapy = 10 months

Probability of
disease recurrence
or progression

Results

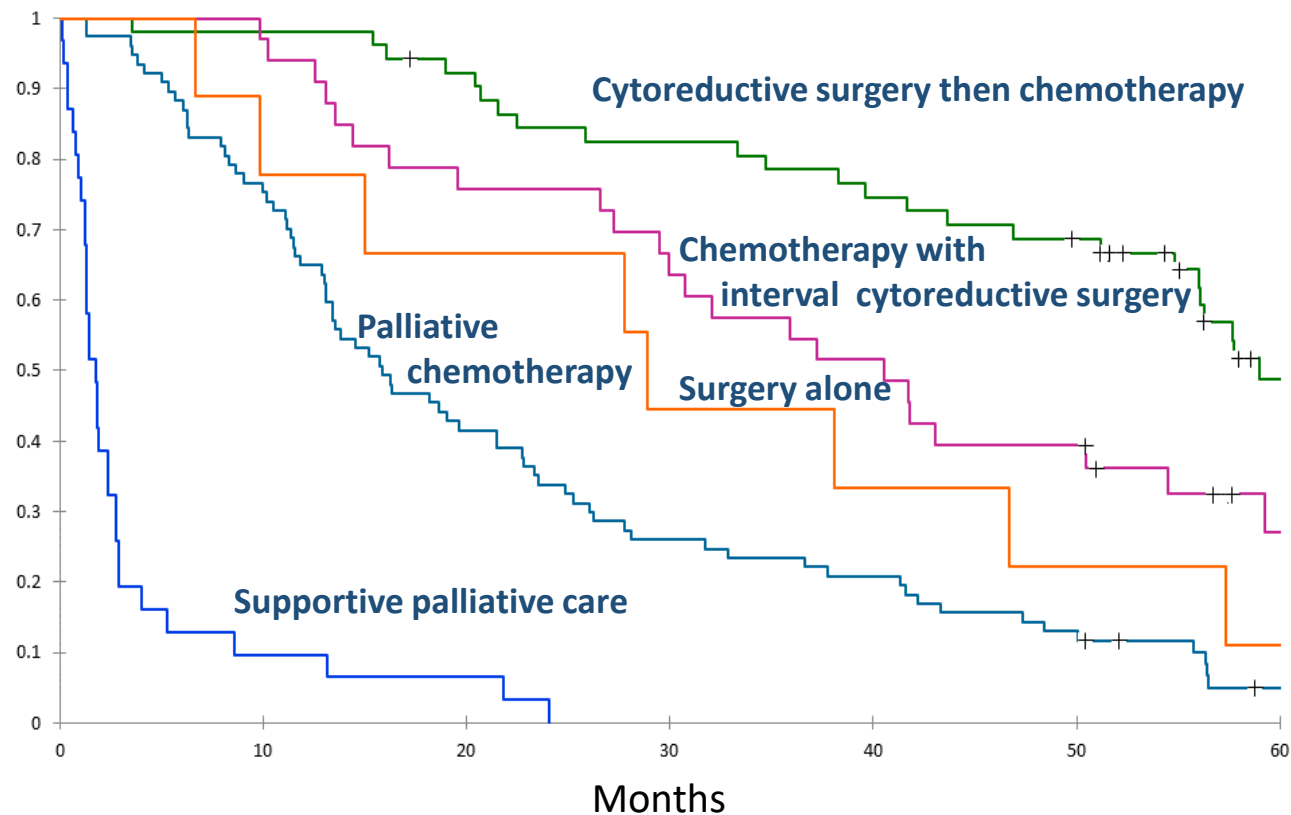
HGSC recurrence
or progression by
cytoreductive
status



- Complete CRS (R0) = 26 months
- Optimum CRS (R1) = 20 months
- Sub-optimal CRS (R2) = 14 months

Results
HGSC 5-year
observed survival

Survival
probability



- Median overall survival = 24 months
- Median survival by treatment type
 - CRS then chemotherapy = 58 months
 - Interval CRS = 37 months
 - Palliative chemotherapy = 16 months
 - No active treatment = 2 months

Conclusion

- Two thirds of patients present with advanced (stage 3 / 4) disease
- HGSC was the most common histological subtype (69%)
 - 42% had cytoreduction surgery (CRS) → 75% primary CRS and 25% interval CRS
 - Primary CRS followed by chemotherapy = median survival 58 months compared to 37 months for interval CRS
 - 83% achieved complete (R0) or optimum (R1) cytoreduction
- 5-year observed survival for LGSC, clear cell + endometrioid carcinoma between 70-80%

References

1. <https://www.qub.ac.uk/research-centres/nicr/FileStore/OfficialStats2018/Factsheets2018/Filetoupload,957497,en.pdf>
2. Lauren C Peres et al. Invasive epithelial ovarian cancer survival by histotype and disease stage. JNCI 2019 111(1): djy071
3. Melissa Matz et al. Worldwide comparison of ovarian cancer survival: Histological group and stage at diagnosis (CONCORD-2)
4. <https://www.bgcs.org.uk/professionals/ovarian-cancer-feasibility-pilot-2/>



Questions?