331 TESTING PREDICTION ACCURACY OF HDU ADMISSION FOLLOWING HIGH GRADE SEROUS ADVANCED OVARIAN CANCER CYTOREDUCTIVE SURGERY USING MACHINE LEARNING METHODS

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Introduction/Background Advanced high grade serous ovarian cancer patients (HGSOC) frequently require extensive procedures including bowel resections and upper abdominal surgery potentially necessitating HDU/ICU support and prolonged hospitalisation. HDU/ICU admission is a measurable outcome that can be used as a benchmark of surgical care. Modern data mining technologies such as Machine Learning (ML), a sub-field of Artificial Intelligence, could be helpful in monitoring HDU/ICU admissions to improve standards of care. We aimed to improve the accuracy of predicting HDU admission in that cohort of patients by use of ML algorithms.

Methodology A cohort of 176 HGSOC patients, who underwent surgical cytoreduction from Jan 2014 to Dec 2017 was selected from the ovarian database. They were randomly assigned to 'training' and 'test' subcohorts. ML methods including Classification and Regression Trees (CART) and Support Vector Machine (SVM), were employed to derive predictive information for HDU/ICU admission from a list of selected preoperative, intraoperative, and postoperative variables. These methods were tested against conventional linear regression analyses.

Results There were 29 out of 176 (16.4%) HDU/ICU admissions; 23 admissions were elective whilst six were unplanned admissions. For the outcome of HDU/ICU admission, both ML

methods outperformed conventional regression by far (table 1). Bowel resection and operative time were the most predictive variables (figure 1). HDU/ICU admission was not associated with increased length of stay, increased number of postoperative complications, and increased risk of readmission within 30 days.

Conclusion We refined risk-adjusted predictors for HDU admission and we tested the feasibility of ML models allowing the adjustment for case mix when auditing the HDU admission as a proxy indicator of the quality of care. Predictive ML algorithms may facilitate quality improvement of modern care by improving prediction accuracy for HDU/ICU admission. For this inherently high-risk population, this information is critical when counseling patients about peri-operative risks in cytoreductive surgery.

Disclosures No disclosures.

Trials in progress abstract

255 MIRRORS TRIAL: MINIMALLY INVASIVE ROBOTIC SURGERY, ROLE IN OPTIMAL DEBULKING OVARIAN CANCER, RECOVERY & SURVIVAL

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Introduction/Background MIRRORS is a UK based prospective feasibility study opened June 2020, following ethics approval. Its purpose is to establish the feasibility of launching a randomised control trial (RCT) of Robotic interval debulking surgery for ovarian cancer (including cancer of the fallopian tube & peritoneum) MIRRORS-RCT in the future.

MIRRORS will focus on the feasibility of obtaining consent from women and the acceptability of Robotic interval debulking surgery for advanced ovarian cancer.

Methodology Women will be identified through the Gynaecological Oncology multi-disciplinary team meeting.

Inclusion Criteria

- adult women ≥ 18 years with stage IIIc-IVb ovarian cancer (including cancer of the fallopian tube & peritoneum)
- undergoing neo-adjuvant chemotherapy
- considered suitable for interval debulking surgery (IDS).
- ≤ 8 cm pelvic mass on CT

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	Accuracy	Sensitivity	Specificity
CART	80%	57%	84%
SVM	86%	57%	91%
Logistic Regression	60%	28.5%	93.1%

HDU Admission

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