



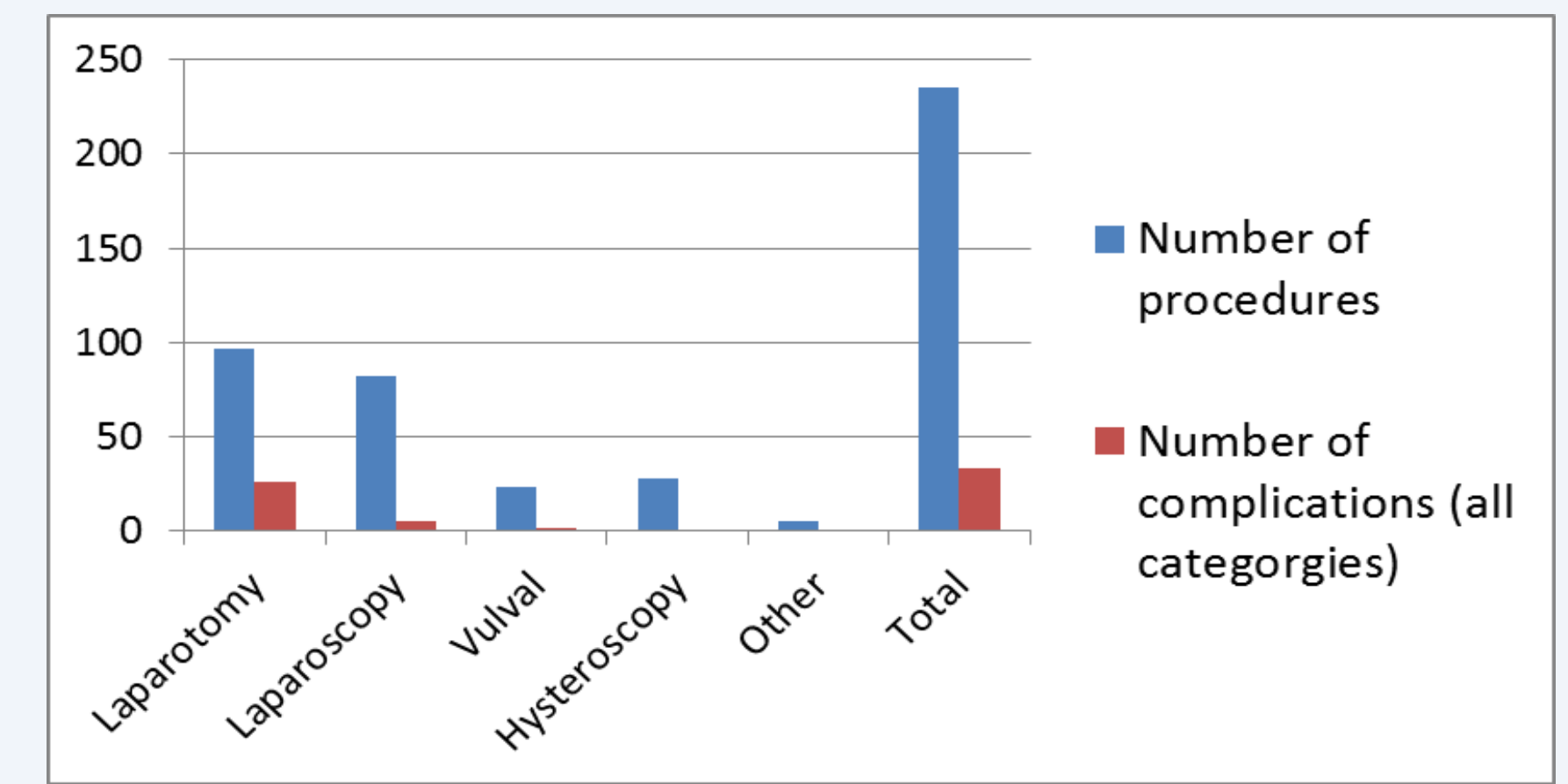
Objective

There is limited data regarding the rate of post-operative complications following gynae-oncological surgery. One multi-centre study found the rate to be approximately 26% (n=1462, 95% CI 23.7 – 28.2)¹ of grade II-V complications according to the Clavien-Dindo classification.² As Spirtos writes, auditing and publishing operative complications is important as it 'contributes to the patient's right to transparency regarding healthcare and [is] a potential pathway to improve physician and institutional performance'.³ An ongoing audit was performed at the Gynaecological Cancer Centre at Brighton & Sussex Universities NHS Hospital Trust (BSUH), to identify the rate of post-operative complications and identify areas for possible improvement.

Method

All Gynaecological Cancer patients operated on at BSUH between 7th June and 6th December 2016 were included in the audit. Patient demographics, the type of procedure, comorbidities and post-op complications were recorded in an encrypted database at the Royal Sussex County Hospital, Brighton. The information was recorded by two junior doctors under the direction of three consultant gynaecological oncologists who performed all procedures. Post-operative complications were defined as "anything that deviates from the course of normal recovery". The severity of each complication was then quantified according to the Clavien-Dindo classification. The results and notable cases were then presented to a multi-disciplinary team at a local audit meeting for feedback and discussion.

| Procedure | Number | Serious Complications | Adjusted Rate (%) | Previous Adjusted Rate (%) |
|----------------------|------------|-----------------------|-------------------|----------------------------|
| Laparotomy | 97 | 7 | 7.2 | 7.4 |
| Laparoscopy | 82 | 1 | 1.2 | 5 |
| Vulval | 23 | 0 | 0 | 0 |
| Hysteroscopy | 28 | 0 | 0 | 0 |
| Brachytherapy Insert | 5 | 0 | 0 | 0 |
| Total | 235 | 8 | 3.4 | 4.6 |



Results

Overall, 235 procedures were performed on 232 female patients ranging from 27 to 88 years old (mean 60.8 ± 14.0); this included 97 laparotomies, 82 laparoscopies, 23 vulval procedures, 28 hysteroscopies and 5 brachytherapy rod insertions. 33 complications were recorded in total; 26 were graded as II-V (rate of 11.1%) and 8 were graded as III-V (3.4%). The most common complications were infection requiring antibiotics (4.3%) and post-operative transfusion (3.4%). Chi-squared analysis showed the rate of complications was significantly different to the benchmark rate (p<0.01).

The previous cycle of the same audit had a rate of 4.6% for complications graded III-V. None of the complications recorded were classed as grade V; 3 patients died within 30 days of their procedure, but these were determined to be a consequence of their co-morbidities rather than as a result of any surgical intervention.

Limitations

There here is not currently a system of collecting intra-op complication data, such as equipment failure or bladder/bowel injury requiring intra-operative fixation.

Post-operatively, patients are encouraged to mobilise early in order to keep length of admission to a minimum; this is in keeping with the Enhanced Recovery Programme (ERP). It is possible that some post-op complications (such as minor wound infection or UTI requiring antibiotics from their GP) were missed if patients did not self-declare to the centre. In future audits, these patients could be picked up with a 30 day follow-up period.

The pre-operative health of the patient was not included in analysis; as Iyer et al. showed in their multicentre-prospective study, factors such as age, co-morbidity status, surgery duration and final diagnosis affect post-op complication rates.⁴

The Clavien-Dindo classification is limited in that it cannot account for prior health status of patient. For example, some patients require blood transfusions; included as a 'complication', although this could be attributed to chemotherapy-induced cytopaenia as opposed to intra-operative blood loss.

Conclusion

The adjusted complication rate of this regional centre for gynae-oncology appeared in line with other published figures.¹ Gynae Oncology patients are often complex with multiple comorbidities which may contribute to post-operative complications rates. It is the intention of the clinical team at BSUH to include BMI, ASA and performance status in future audits to understand their relationship to post-operative complication rates. The Clavien-Dindo classification may not be suitable for patients with multiple pre-existing comorbidities and a modified version of this classification may need to be developed for this cohort of patients.

Definitions

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|-----|---|
| I | Any deviation from the normal postoperative course without the need for pharmacological treatment other than the "allowed therapeutic regimens", or surgical, endoscopic and radiological interventions |
| II | Requiring pharmacological treatment with drugs beyond those allowed for grade I complications. Blood transfusions and total parenteral nutrition are also included. |
| III | Requiring surgical, endoscopic or radiological intervention. |
| IV | Life-threatening complication requiring critical care management; CNS complications including brain haemorrhage and ischemic stroke (excluding TIA), sub-arachnoidal bleeding. |
| V | Death of a patient |

References

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2. Dindo, D., Demartines, N. and Clavien, P.A., 2004. Classification of surgical complications: a new proposal with evaluation in a cohort of 6336 patients and results of a survey. *Annals of surgery*, 240(2), pp.205-213.
3. Spirtos, N. (2016), The complexities of benchmarking surgical complications in gynaecological oncology. *BJOG: Int J Obstet Gy*, 123: 2181. doi:10.1111/1471-0528.13997
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