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catheters have been used to detect tumor-specific TP53 mutations from cells presumably shed from high-grade serous ovarian cancer, but this technique may not identify non-serous subtypes or early-stage disease. We aimed to pilot the combination of deep sequencing methods with an expanded gene panel to improve detection of both early stage and non-serous ovarian cancers.

Methods

Lavage of the uterine cavity was performed in 35 consecutive patients undergoing surgery with preoperative concern for an ovarian malignancy. Duplex sequencing, an ultra-accurate error-correction sequencing approach, was used to deeply sequence extracted DNA from lavage samples (average duplex depth - 2500x+) with a panel of candidate ovarian cancer driver genes including TP53, ARID1A, PTEN, PPP2R1A, CDKN2A, KRAS (whole genes), CTNNB1, PIK3CA, and BRAF (hotspots only). Tumor DNA was sequenced to identify driver mutations and compare with mutations found in the lavages. The overall mutation frequency in lavage DNA was calculated by dividing identified non-polymorphism mutant alleles by the total number of nucleotides sequenced in coding regions.

Results

In total, lavage samples were collected from fourteen women with benign disease, thirteen with high grade serous carcinoma (HGSC), three with clear cell carcinoma, three with endometrioid carcinoma, one with granulosa cell carcinoma and one with carcinosarcoma. Thirteen women had stage I or II disease (including five with stage I or II high grade serous). Processed lavage samples yielded a median DNA of 596.5 ng. Tumor sequencing is ongoing, but of seven fully sequenced lavage/tumor pairs, the tumor-specific mutation was identified in four lavage samples: TP53 mutations found in two HGSC (stage Ib and stage III), an ARID1A mutation from a stage Ic clear cell carcinoma, and a PIK3CA mutation from a stage Ia endometrioid carcinoma. The tumor-specific mutation was not identified in lavage samples from two patients with endometrioid and one with clear cell carcinoma. Of 21 lavage samples that have presently undergone duplex sequencing, a total of 596 additional somatic mutations were identified in the nine genes. Lavages from patients with HGSC tended to have increased average mutation frequency of TP53 compared to patients with benign disease (TP53 2.2 × 10⁻⁶ vs 9.2 × 10⁻⁷, p = 0.09).

Conclusions

Sequencing at high depth and using an expanded gene panel allows for the identification of tumor mutations in uterine lavage samples, including some early stage and non-serous ovarian cancers, as well as identifying significant somatic mutational background. Larger studies are needed to confirm the clinical utility of this method, which may have potential to improve the early detection of ovarian cancer.

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Abstract #17

Surgeon placed transverse abdominis plane (TAP) blocks as an alternative to thoracic epidurals

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Objectives

To decrease time in the Operating Room (OR) by utilizing intraoperative Transverse Abdominis Plane (TAP) blocks instead of thoracic epidurals for postoperative pain management in patients undergoing laparotomies for suspected gynecologic malignancies.

Methods

We compared perioperative outcomes for gynecologic oncology patients undergoing transverse or perifraumbilical vertical midline skin incisions and either a surgeon placed TAP block or thoracic epidural between July 2019-present. For the TAP block, we injected twenty milliliters of 0.2% ropivacaine into the transverse abdominis plane bilaterally in the mid-axillary line.

Results

We analyzed 25 patients who had a TAP block and 73 subjects with an epidural. These cohorts were similar in age, Body Mass Index (BMI), and use of a short acting opioid medication prior to surgery. There was a larger proportion of patients with cervical cancer in the TAP block cohort (36% versus 13.7%, p = 0.02) but otherwise similar rates of benign disease, ovarian cancer, and uterine cancer. The TAP block cohort had significantly shorter length of time from arrival in the OR to procedure start (59.4 versus 81.0 min, p < 0.01), but similar operative time (227 versus 217 min, p = 0.58) and total time in the OR (298 versus 308 min, p = 0.62). However, there was a statistically significant reduction in total time in the OR for patients with benign disease who had a TAP block (219 versus 272 min, p = 0.02). The mean length of stay was 3.50 days (TAP block) versus 4.03 days (epidural, p = 0.09). The average daily Oral Morphine Equivalents (OME) used, including from the epidural infusion, was significantly less for patients with a TAP block (49.3 OME) versus those with an epidural (95.5 OME, p < 0.01). Patients with an epidural had superior pain control (scale 0–10) on postoperative day zero (pain score of 3.74 TAP block versus 2.07 epidural, p < 0.01), but thereafter there was no difference in pain scores.

Conclusions

In this pilot study, surgeon placed TAP blocks compared to thoracic epidurals decreased length of time from arrival in the OR to procedure start and a patient’s total postoperative OME use, without affecting length of stay or pain scores after postoperative day zero.

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Abstract #18

Characteristics of gynecologic oncology patients utilizing telemedicine during the COVID-19 pandemic

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Objectives

The COVID-19 pandemic is an unprecedented event in the era of modern medicine, and has resulted in shifts in clinical care delivery to incorporate more telemedicine to reduce the exposure of nonacute patients to healthcare settings. While there is a well-recognized need for increased integration of telehealth in gynecologic oncology care, there are areas of concern regarding limitations of its use, including potential patient barriers such as age and technologic capability or access. The purpose of this study was to characterize gynecologic oncology patients who utilized telemedicine as part of their cancer care during the pandemic, in order to determine potential barriers to and facilitators of telemedicine use.
Methods
A single institution retrospective chart review of patients who participated in at least one telemedicine visit from March 1 to September 30, 2020 at an NCI-designated cancer center was completed. Demographic and clinical factors were abstracted.

Results
217 patients participated in telemedicine visits (Table 1). The median age was 63; 64% were older than 60 years. 83.4% were Caucasian and 99.1% spoke English primarily. 97.2% had private insurance or Medicaid/Medicare. The median patient distance from the cancer center was 30 miles, although 40.5% lived 50 miles or further from the cancer center and 36.4% lived in rural zip codes designated by the Federal Office of Rural Health Policy. 92.17% had an ECOG performance status of 0 or 1. 79.7% were being treated for primary or recurrent malignancy. The majority of visits (72.4%) were conducted via video, with face-to-face interactions between providers and patients (Table 2).

Conclusions
Telemedicine provides an important opportunity to reduce unnecessary patient exposure to the healthcare setting, and has the potential to decrease the financial toxicity and treatment burden associated with cancer care. Our findings suggest that telemedicine at our institution was accessible to a wide range of ages, including a large percentage of older adults, as well as to patients who live in rural settings. It may be assumed that older and rural populations have more limited access to the technology required for telemedicine utilization; however, our outcomes provide impetus to continue to offer telemedicine services to these patients. Our data show that uninsured patients and non-English speakers constituted only a small fraction of telemedicine participants, highlighting the need for innovative solutions to reduce inequalities in access to telehealth services for these groups.

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Abstract #19

The impact of distance to closest negative margin on survival after pelvic exenteration
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Objectives
To determine the effect of distance to closest negative margin on survival after pelvic exenteration.

Methods
This was a retrospective analysis of all women who underwent pelvic exenteration at a single institution from 2000 to 2019. Baseline characteristics, surgical details, postoperative complications,