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Table 1. Sensitivity analysis

| m-TESE cost ($) | WTP ($) |
|----------------|---------|
| 1,000 cTESE | 14,000 mTESE |
| 2,000 mTESE | 16,000 mTESE |
| 5,000 mTESE | 18,000 mTESE |

ultrasound measurements of follicle diameters in 2 dimensions (in mm). Outcomes included number of mature oocytes stratified into 2 groups: 0 to 10 (Group I) and > 10 (Group II)mature oocytes. The database consisted of 2603 total autologous cycles composed of 305,472 clinical data points. There were 1591 complete records encompassing 4731 visits. Eighty percent of the cycles were used for training and validation and 20% for challenge. Predictive algorithms were evaluated and written using Python, NumPy, logistic function, Pandas, and SKLearn. Data was organized using Jupyter Notebook.

RESULTS: The accuracy of the algorithm to predict the single best day for monitoring was 0.95 and identified Day 9 as the single best day. Errors in predicting too early or too late were 0.4 and 0.5 days respectively. Accuracy for prediction for total number of mature oocytes when baseline testing alone or when baseline testing in combination with data during day of observation was 0.76 and 0.80 respectively. In addition, no combination of baseline factors or data observed during stimulation was more influential in the algorithm’s predictive power than AMH alone. Sensitivity and positive predictive value for estimating the total number of mature oocytes in Groups I (0 to 10) was 0.78 and 0.79 and for Group II (>10) were 0.73 and 0.72 respectively. After identifying the single day for evaluation, the algorithm identified a range of 3 retrieval days specified by the earliest and the latest day, as options where the number of mature oocytes retrieved was unchanged leaving open the option of a range of 3 days to schedule and level load retrievals.

CONCLUSIONS: We describe a robust suite of integrated management tools encompassing three interrelated nodal points for management, scheduling techniques and decision making during IVF to include reducing monitoring to a single best day during ovarian stimulation; adjustment of outcomes (PR) based on that data and options to level load oocyte retrievals. These tools will enable an improved work flow and reduction in patient care visits without any reduction in the surveillance of response or outcomes during IVF. As such this, algorithm should improve workflow and reduce costs due to reduced need for monitoring and personnel.

SUPPORT: None

P-750 4:30 PM Tuesday, October 20, 2020

FINANCIAL DECISION ANALYSIS FOR SURGICAL SPERM RETRIEVAL APPROACHES. Tracy X. Han, MD, MBA, Ramy Abou Ghayda, MD, MHA, MPH, Brittany D. Berk, MD, John Joseph Ernandez, Jr., BA, Martin Kathirins, MD Brigham and Women’s Hospital and Harvard University, Boston, MA.

OBJECTIVE: To determine the most financially optimal surgical approach for testicular sperm retrieval for men with non-obstructive azooejpermia (NOA).

DESIGN: A decision tree was created examining five potential surgical approaches for men with NOA pursuing one cycle of ICSI. An expected financial net loss was determined for each surgical option based on couples’ willingness to pay (WTP) for one cycle of ICSI resulting in pregnancy. The branch with the lowest expected net loss was defined as the most optimal financial decision (minimizing loss to a couple). Fresh TESE implied the decision was performed in conjunction with programmed ovulation induction. Frozen TESE implied TESE was performed initially, and ovulation induction/ICSI was canceled if sperm retrieval failed. The surgical options included fresh conventional TESE (c-TESE, with and without “backup” sperm cryopreservation), fresh microsurgical TESE (m-TESE, with and without “backup” sperm cryopreservation), and frozen m-TESE. Success was defined as pregnancy after one ICSI cycle.

MATERIALS AND METHODS: Probabilities of successful sperm retrieval with c-TESE/m-TESE, post-thaw sperm cellular loss following frozen m-TESE, ovulation induction/ICSI cycle out-of-pocket (OOP) costs, ICSI pregnancy rates for men with NOA, standard c-TESE cost and average WTP for ICSI cycle were gathered from the systematic literature review. Costs were in USD and adjusted to inflation (as of April 2020). Two-way sensitivity analysis was performed on varying couples’ WTP for one cycle of ICSI and varying m-TESE OOP costs.

RESULTS: According to the decision tree analysis (assuming minimum m-TESE cost of $1,000 and WTP of $8000), the expected net loss for each branch was as follows: -$17,304 for fresh c-TESE, -$17,282 for fresh m-TESE, -$8,928 for frozen m-TESE, -$17,971 for fresh c-TESE with “backup”, and -$18,298 for fresh m-TESE with “backup”. Two-way sensitivity analysis with variable WTP values and m-TESE costs confirmed that frozen m-TESE consistently presented the lowest net loss compared to other options. Interestingly, when directly comparing fresh m- and c-TESE with “backup”, scenarios with decreasing WTP and lower m-TESE costs demonstrated c-TESE with “backup” as more optimal than m-TESE with “backup” (Table 1).

CONCLUSIONS: Our study suggests that frozen m-TESE is the most financially optimal decision for the surgical management of NOA, regardless of m-TESE cost and couple’s WTP.

P-751 4:30 PM Tuesday, October 20, 2020

FROM PEN TO KEYBOARD: TRANSITION TO A SPECIALTY ELECTRONIC MEDICAL RECORD. Baruch Abitban, M.D., Stephanie R. Brownridge, M.D., Randi H. Goldman, M.D., Christine Mullin, M.D. Northwell Health Fertility, North Shore University Hospital/Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Manhasset, NY.

OBJECTIVE: The importance of converting paper medical records to electronic versions has been nationally recognized. There are certain specialties, including Reproductive Endocrinology and Infertility (REI), which have lagged behind the initiative in transitioning to an electronic medical record (EMR). Our objective is to describe the essential steps required for a successful transition to EMR in a large university academic REI clinic, and to report results from an internal survey regarding the perception of transition among multidisciplinary staff members.

DESIGN: Descriptive and Survey study.

MATERIALS AND METHODS: We reviewed the processes executed during our transition from paper to electronic health records. To ensure that the system was designed to match the workflow of the practice, a plan was determined for all fields of the division (andrology, embryology, third party reproduction, clinical services outside of IVF, billing, radiology and laboratory services). The process began with clear goals of implementing an EMR system at 6 ambulatory locations, which was accomplished in a series of 5 rollout periods. Six months following the go live date of EMR implementation, an anonymous survey was administered to staff members regarding the EMR transition and effect of EMR on remote-work during the COVID-19 pandemic.

RESULTS: Patients’ safety is of paramount importance, and correct identification of patient, partner, and gametes is a vital objective while transitioning to a paperless system. Challenges recognized during this process were communication, services sharing a single location with differing needs (andrology, embryology, third party reproduction, billing, laboratory, clinical), requirements from multiple regulatory bodies (eg. FDA, CDC, SART), integration of fertility software into existing University health system EMR, complexity of a workflow with multiple providers interacting with patients, and the unique safety procedures involved with fertility care, including witnessing of specimens. Thirty-eight staff members, including physicians, nurses, embryologists, and office staff responded to the survey. Most respondents were between age 31-40 y (32%), 21-30 y (21%), or 51-60 y (21%). Sixteen percent of respondents did not feel comfortable with EMR use prior to implementation. Almost one third of respondents (29%) had been working in the fertility field for 1-5 y, 27% for 6-10 years, and another 21% for more than 20 years. Seventy percent of staff members felt the education received prior to EMR transition was well organized with attainable goal. Most (90%)...
were satisfied with the EMR transition process, 79% identified a positive impact on work patterns since EMR transition, and 87% reported improved communication. Over 90% of staff members believed that the EMR transition prepared them to utilize TeleHealth remotely during the COVID-19 pandemic.

CONCLUSIONS: With proper planning and commitment of administration and staff, a successful transition from paper charts to EMR can be accomplished in a busy REI practice.

P-752 4:30 PM Tuesday, October 20, 2020

PRINCIPLES OF ONLINE DEFAMATION FOR PHYSICIANS. Christopher P. Moutos, MD, Kajal Verma, MD, John Y. Phelps, MD, JD, LLM, MHA1 University of Texas Medical Branch, Galveston, TX; 2University of Nevada, Las Vegas, Las Vegas, NV; 3University of Nevada Las Vegas, Las Vegas, NV.

OBJECTIVE: The goal of this study is to highlight online defamation lawsuits initiated by healthcare providers and discuss situations in which litigation may be an appropriate response to potential claims of online defamation. We also aim to propose solutions for addressing unfavorable online reviews in a way that may avoid the litigation process.

DESIGN: Case law review

MATERIALS AND METHODS: Local county and district court dockets, along with NexisUnli, a legal database of appealed court cases, were used to identify relevant lawsuits and legal principles pertaining to online defamation cases. Media coverage was used to further characterize details of specific lawsuits identified. Materials from the American College of Obstetrician and Gynecologists were used to help form recommendations for physicians in handling online interactions.

RESULTS: Successful defamation lawsuits must establish four key elements: (1) presence of a false or defamatory statement; (2) fault, amounting to at a minimum negligence; (3) an unprivileged communication to a third party; (4) harm or damages suffered by the plaintiff due to the statement. The specific lawsuits Desert Palm Surgical Group v. Petta, McKee v. Laurion, and Great Wall Medical PC v. Levine serve as examples of lawsuits that were unsuccessful or have faced significant, ongoing difficulty in the court system due to failure in establishing each of the four principles of a successful defamation case. Successful cases do exist though, as seen in Austin Eye Clinic v. Hall. The cases of Reit v. Yelp Inc and Braverman v. Yelp Inc demonstrate the difficulty in healthcare providers seeking action directly against a website itself, rather than an individual reviewer. Online defamation lawsuits can be resource intensive and harm a practice’s reputation due to negative media attention. In addressing patient reviews online, physicians must be mindful to protect patient confidentiality as outlined by the Health Insurance Portability and Accountability Act (HIPAA).

CONCLUSIONS: Physicians considering a lawsuit should weigh the alleged defamatory statement against the four criteria which a defamatory claim must meet. They should also consider the ability to identify the author, the author’s ability to pay if damages are awarded, and the opportunity cost of time spent in the legal process. In situations where a physician believes they have sufficient grounds for a case, they should seek professional legal advice. Those choosing to respond online should do so in a professional manner that adheres to HIPAA guidelines. Physicians who are proactive in soliciting evaluations from patients have seen overall positive results. Evidence exists that most online reviews of physicians are positive and having negative reviews is not wholly detrimental to a practice.

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Tehrani, Ali Bonakdar, Steven R. Feldman, Fabian T. Camacho, and Rajesh Balkrishnan. 2011. “Patient Satisfaction with Outpatient Medical Care in the United States”. Health Outcomes Research in Medicine. 2 (4).

SUPPORT: None

P-753 4:30 PM Tuesday, October 20, 2020

IMPACT OF IMPLEMENTATION OF A NEW EMBRYO CULTURE SYSTEM ON EFFICIENCIES OF CLINICAL OPERATIONS IN A MODERN IVF CLINIC. Natasha Hesketh, MSc, Tejaa Pera, PhD, Andrew Murray, MSc, Sarah Dalati, PhD, Mark Bowman, MB BS PhD, Steven J. McArthur, BSc Geneva, Sydney, NSW, Australia.

OBJECTIVE: Although our clinics achieved significant improvements in embryo developmental outcomes and pregnancy rates after the introduction of continuous culture medium and timelapse system, the downstream impact on operational efficiencies remained unknown. In the face of increasing competition, these impacts are becoming increasingly important for the clinics, and hence the objective of this study was to examine if implementation of the new system had positive effects also on IVF clinic operational outcomes.

DESIGN: Alongside the change of culture system in a chain of IVF clinics, operational efficiencies were monitored to assess the possible advantages or disadvantages to clinical operations. Overall procedure times per patient and number of cycles per embryologists were tracked. In addition, patient satisfaction regarding monitoring their embryo videos during their cycle was recorded to assess the effect on competitiveness of the clinics’ services. The data was collated from 2017-2019.

MATERIALS AND METHODS: Clinical cycles across eight clinics in 2017 to 2019 were included into the study. Cycle procedure and clinical process timings, each broken into 16 separate steps, were captured from clinical records. Average cycle numbers per full-time equivalent embryologists were likewise captured in 8 clinics. 358 patients were surveyed over 8-month period during their cycle about their experiences of accessing their embryo images and videos using a 5-level Likert scale questionnaire.

RESULTS: Average procedure times decreased from 570 to 555 to 490 minutes per patient in 2017, 2018 and 2019, resulting in average savings of 1h 20 min per patient (14% decrease), with biggest relative time savings achieved by embryo assessment and embryo hatching (in-situ). Clinical hours per cycle varied from 6.9 to 7.0 to 6.1 hours in 2017, 2018 and 2019, again with biggest time savings gained for embryo checks. Number of cycles per embryologist increased from 107 to 126 to 160 (50% increase) in 2017, 2018 and 2019. Although more flexibility in staffing due to facilitation of remote embryo assessment was the biggest factor, not all efficiency improving factors were directly related to the new culture system. 84% of surveyed patients agreed or strongly agreed that their IVF experience was enhanced by access to their images, citing factors such better inclusion of their partner, provision of greater understanding and feeling of being more connected with their treatment. Subsequent surveys showed that even in cycles not leading to pregnancy, majority of patients still felt better connected to and more satisfied with their treatment when having access to images.

CONCLUSIONS: Implementation of new embryo culture system led to positive trickle-down effects in efficiencies, costs, staffing and patient satisfaction. Rather than looking at laboratory operations and culture systems in isolation, it is hence important to consider the wider picture to ensure IVF clinics’ operational and financial success alongside clinical outcome successes.

POSTER SESSION: PREIMPLANTATION GENETIC TESTING

P-754 4:30 PM Tuesday, October 20, 2020

PREIMPLANTATION GENETIC TESTING (PGT) SUCCESS IN THE UNITED STATES (2014-2017): MULTIPLE OUTCOME MEASURES INDICATE SUPERIORITY OF PGT OVER NO PGT. David H. McCulloh, Ph.D.1 NYU Langone Fertility Center, New York, NY; 2NYU Langone Prelude Fertility Center, New York, NY.

OBJECTIVE: Studies have compared outcomes of transferring embryos tested for Preimplantation Genetic Testing (PGT) with untested embryos. Most studies using comprehensive chromosome analysis (CCA: qPCR, array based or sequencing) found benefits for PGT in single centers (1,2,3). One multi-center randomized controlled trial showed benefit only for patients >35 years (4). Data spanning the United States (US) are available; but have not been reviewed since results from 2011 & 2012 (5)mainly day 3 biopsies with a mix of aCGH and FISH). This study evaluates over 420,000 cycles from 2014-2017 comparing outcomes using PGT (mainly blastocysts using CCA) versus no PGT.

DESIGN: Analysis of outcomes data collected from the SART Registry (www.sart.org).

MATERIALS AND METHODS: Data for non-banking cycles (years: 2014-2017, inclusive) were segregated by use of PGT biopsy or not. Outcomes included: Livebirth (LB) per cycle (up to 1 transfer), miscarriage, multiple pregnancy and preterm deliveries. The mean number of embryos transferred was determined for each group.