LH had greater improvements in total sperm count (TSC) and total motile sperm count (TMSC). Men with lower FSH had greater improvements in T, sperm concentration, and TSC. Azoospermic men showed least improvement across all semen parameters. No significant differences in magnitude of improvement were observed between oligozoospermia sub-categorizations (mild, moderate, severe) and normozoospermia.

CONCLUSIONS: Not all patients experience the same benefit from clomiphene. Our data suggest that men with azoospermia do not significantly benefit. Degree of non-azoospermia did not affect magnitude of improvement. Men with lower gonadotropin levels may expect greater degree of improvement in both hormone and semen parameters.

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MP31-18
ONLINE MALE INFERTILITY SUPPLEMENTS: A GROWING MARKET WITHOUT GROWING EVIDENCE
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INTRODUCTION AND OBJECTIVE: The current American Urological Association guidelines state no clear recommendation can be made for the treatment of male infertility using antioxidants. While many supplements have been shown in small, low quality studies to improve semen parameters, few, if any have been shown to actually improve natural conception rates or live birth rates. We aim to examine the current online market for male infertility supplements and evaluate the clinical evidence of their ingredients.

METHODS: Amazon, Google Shopping and Walmart search engines were queried for currently available male infertility supplements. Customer reviews, supplement costs, claims and ingredient information were collected. The active ingredients were then compared with known supplements included in randomized controlled trials (RCTs) for subfertile men.

RESULTS: A total of 243 products were reviewed across the 3 online marketplaces and 30 distinct supplements were analyzed containing a total of 73 ingredients. We found that 70% of the products claimed to improve sperm motility, 63% claimed to increase sperm count, and 12% claimed to increase the chance of conceiving. The average 30 day cost per product was $35.10 and 4 products made “money back guarantees.” At least half the products contained Zinc (57%), Folic Acid (53%), L-Carnitine (50%) and Selenium (50%). The most reviewed product accumulated 1214 reviews with an average rating of 4.48/5 stars. Of the 73 ingredients reviewed, 58.9% of them have never been studied in human clinical trials on male infertility. In total, 12 of the 15 most common ingredients were cited in human clinical trials. Only 2/15 (13%) ingredients (Vitamin E and Zinc) have been shown to improve conception rates while 6/15 (40%) ingredients have been shown to increase semen parameters.

CONCLUSIONS: The online market for male infertility supplements is saturated with products claiming to improve semen parameters and the chance of conceiving. While comparatively less expensive than artificial reproductive technology (ART), many include ingredients that have either not been found to have the advertised effect or have never been tested in human trials. Patients should be warned of the large number of male infertility products on the market that have little to no evidence of improving fertility, and may increase the burden of cost on patients who may eventually require ART.

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MP31-19
ARTIFICIAL INTELLIGENCE BASED MACHINE LEARNING MODELS PREDICT SPERM PARAMETER UPGRADING AFTER MICRO SURGICAL VARICOCELE REPAIR: A MULTI-INSTITUTIONAL ANALYSIS
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INTRODUCTION AND OBJECTIVE: Varicocele repair is recommended in the presence of a clinical varicocele together with at least one abnormal semen parameter, and male infertility. Unfortunately, up to 50% of men who meet criteria for repair will not see meaningful benefit in outcomes despite successful surgery. We developed an artificial intelligence (AI) model to predict which men with varicocele will benefit from surgery.

METHODS: We identified men with infertility, clinical varicocele, and at least one abnormal semen parameter from two large Urology centers in North America (Miami and Toronto) between 2006 and 2020. We collected pre and postoperative clinical and hormonal data following surgery. Clinical upgrading was defined as an increase in sperm