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INTRODUCTION & OBJECTIVES: Recent studies have indicated a link between male infertility and tumor occurrence. Nevertheless, uncertainty remains whether the treatments differ in men with infertility as this parameter implicates the cancer behavior during the therapy. Therefore, we conducted the current study to evaluate the treatment course of infertile men diagnosed with cancer.

MATERIAL & METHODS: The Truven Health MarketScan Commercial Claims and Encounters database was utilized for our evaluation. We identified a cohort of likely infertile men by selecting outpatient claims with an infertility diagnosis code or by the presence on any claim of a procedure code (CPT) for fertility testing or semen analysis/semen preparation. A comparison group of men aged between 18 and 50 and claims containing a CPT for vasectomy was assembled given their presumed fertility. Furthermore, a control group was constituted by men not enrolled in the two previously described cohorts after matching by age and follow up time of the infertile grup. We considered specific cancer diseases previously associated with infertility in the current database (i.e., melanoma, prostate, testis, bladder, thyroid, none Hodgkin lymphoma (NHL), Hodgkin lymphoma, and leukemia). The treatment regimens were determined based on the presence of claims with CPT codes indicating chemotherapy (CTX), radiation (RTX) or surgical treatment (ST) for each entity in all study groups. Cases with multimodal treatments were furthermore identified.

RESULTS: Overall, 76,083 men were identified as having infertility. "Vasectomy" was performed in 112,655 men. Additionally, the control cohort was comprised of 760,830 men who were neither infertile nor underwent vasectomy. Men with cancer disease from groups "infertility" or "vasectomy" were followed longer and have more visits than men in the control group. CTX was similarly distributed among these groups. In contrast, RTX was performed more frequently in infertile men compared to other men. The frequency of the bimodal treatment (i.e. radiochemotherapy) was considerably two-fold lower in men with infertility compared to other men. By focusing on treatment patterns for each cancer disease among these groups, the duration of RTX was remarkably lower in infertile men diagnosed with testicular cancer and NHL compared to that in other men with similar entities. In NHL disease, the CTX was shorter in infertile men in comparison to other groups.

CONCLUSIONS: Infertile men diagnosed with certain cancer diseases experience an altered treatment course compared to those who are either fertile or underwent vasectomy suggesting different tumor biology.