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Does a Tuberculosis Peritonitis Imitate an Advanced Ovarian Cancer?: A Case Report at Iringa Regional Referral Hospital in Tanzania

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Abstract:- **Tuberculosis (TB) Peritonitis is unexpected tuberculosis that happens in less than 2% of the patients worldwide. The incident rates are higher in the developing countries as a result of the inadequate diagnostic equipment. The mimicking of the tuberculosis peritonitis with an advanced ovarian cancer affects the decision of the gynecologist even after coming up with the confirmatory investigation of image findings.**

A 34-year-old female presented with progressive abdominal distension for 2 months, discomfort, abnormal vaginal discharge, which was foul smell and yellowish in color, painful sex intercourse, and denied history of diarrhea or constipation. Furthermore, present the history of passing black stool, but she denied history of vomiting blood or epigastric pain. A pelvic scan revealed the adnexal masses and ascites, with a conclusion of advanced ovarian cancer.

A laparotomy was done; total abdominal hysterectomy and bilateral salpingoophorectomy were done. A specimen sent for histopathology, which revealed tuberculosis peritonitis and not ovarian cancer. A patient was administered anti-tuberculosis drugs, and on follow-up, the patient showed an improvement. Therefore, in this case, the gynecologist should think of tuberculosis peritonitis as a differential diagnosis of advanced ovarian cancer, and this can be confirmed by the laparoscope and histopathology of the specimen hence preventing unnecessary total abdominal hysterectomy.

- **Implication for policy makers: The diagnostic tools in the health care facilities should be readily accessible and available for such rare cases hence more on job training to equip the gynecologists with updated knowledge and skills.**
- **Implication for public: The public health should be emphasized in the community by offering health promotion, encouraging screening, and prevention of diseases so as to prevent the consequences which affects the life of an individual.**

Keywords:- *Tuberculosis Peritonitis, Advanced Ovarian Cancer.*

I. INTRODUCTION

Tuberculosis peritonitis mimicking advanced ovarian cancer is an infrequent case which imitates an advanced ovarian cancer. Tuberculosis peritonitis is common linked with primary immunodeficiency ordinarily effect from intestinal tract and thought to be due to hematogenous spread nevertheless can happen by damage of bowel, lymph nodes or fallopian tube and mostly characterized with fatigue, pain, weight loss, anorexia, fever, abdominal distension, and diarrhea/constipation and most of the time it confused with an advance ovarian cancer[1].

An advanced ovarian cancer can spread outside of ovary, sometimes to the pelvis, abdomen, and lungs or into other areas of the body; symptoms may be harder to manage before it spread. Pre-operative diagnosis of advanced ovarian cancer is frequently challenging as the result that can present with symptoms of the peritonitis. Over two third of the patients are presented with the advanced ovarian cancer and this due to late diagnosis or the health seeking behavior, and accessibility of health care services in the primary health facilities with inadequate diagnostic equipment can be difficult to diagnose[2]

Tuberculosis peritonitis must remain painstaking if intraoperative results display diffuse nodular distributed lesions. Therefore the tuberculosis peritonitis mimicking an advanced ovarian cancer can mislead the general gynecologist and medical expert due to mimicking tendency[3].

Despite the fact that the confirmatory investigation and diagnosis still there is high chance of true-false results due to similarities of signs and symptoms of the advanced ovarian cancer and the tuberculosis peritonitis. Thus the pathological and histopathology are highly encouraged in confirmation of the investigation of the tuberculous peritonitis[4].

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Tuberculosis peritonitis it affects both male and female especially the immunodeficiency patients, although once it affects the female patients the tuberculosis peritonitis mimicking an advanced ovarian cancer and the level of health facilities and the available diagnostic equipment may be confusing to the gynecologists [5].

II. CASE REPORT

A 34-year old female, para 4 and living 3 admitted in hospital on 30th November, 2023, her last normal menstrual period was on 3rd November 2023 with a history of experiencing progressive abdominal distension for 2month, and discomfort. Furthermore the patient gave a history of abnormal vaginal discharge, which was foul smell and yellowish in color. In connection to that history of painful sex intercourse, passing black stool reported while denied history of diarrhea or constipation epigastric pain and vomiting blood.

All systems were assessed and a patient had no history of cough, chest pain and difficulty in breathing, no history of awareness of heart beat, no history of dizziness or headache. No history of tuberculosis contact in the family does not smoke, and denied history of alcohol intake. No history of admission and denied history of chronic illnesses.

The patient had low grade fever which was persistent and more marked during the evening accompaniment with loss of appetite and sometimes non projectile bilious vomiting. A tender supra-pubic region and uniformly distended abdomen was detected. A pelvic scan revealed the adnexal masses and ascites with a conclusion of an advanced ovarian cancer. Laparotomy was done, total abdominal hysterectomy and bilateral salpingooophorectomy was performed. Specimen sent for histopathology which revealed tuberculosis and not ovarian cancer, and the client given anti-TB drugs and improved.

➢ *Physical Examinations*

- General Examinations: she was afebrile temperature 37.2 c not pale and not dehydrated. No lymphadenopathy. Cardiovascular system: pulse rate 78bpm regular full volume, blood pressure 120/60 mmhg S1S2 heard no murmur.

➢ *Abdominal Examination:*

Uniformly distended tender Suprapubic region and tenderness on the right iliac fossa. Shifting dullness and fluid thrill positive. Palpable mass on both adnexa 5x5 cm right and 4x3 left hard nodular but mobile.

- Vaginal Examination: normal vulva, yellowish discharge with foul smell, excitation test positive **Diagnosis**: Ovarian Malignancy with Ascites.

➢ *Laboratory and Radiological Investigation:*

Chest x-ray normal, liver function test normal and serum creatinine normal. Abdominal Pelvic ultrasound scan: bilateral fluid filled masses in adnexa, massive ascites normal uterus, liver and kidney. Portal vein not dilated and biliary tree normal. A diffuse peritoneal carcinomatosis involving the parietal peritoneum, small bowel, mesentery, and diaphragm peritoneum. Bilateral cystic adnexal masses 4-5 cm with surface excrescences findings were suggestive ovarian cancer stage 111c was noted. Concluded by the gynecologists' team that the patient had bilateral ovarian tumor with ascites and decision made for an operation.

➢ *Pre-Operative Time*

Plan for exploratory Laparotomy biopsy and staging, blood group and cross match 2 units, counseling was done and consent was requested. Urinary catheter was inserted and Intravenous lines were secured blood group and cross match was done which was blood group O positive and patient taken to theatre for Laparotomy

III. INTRAOPERTIVE

Patient in supine position and under general anesthesia, her hips and knees were flexed, the abdomen was swabbed with hibitane 5% and draped with sterile towels to isolate the operation area. The abdomen was opened in layers through extended midline incision. Bleeders were clamped and ligated with plain catgut 0. A self-retaining retractor and Doyen's bladder retractor were fixed to achieve retraction of abdominal wall laterally and the bladder retraction distally. Packed off the intestines into the abdominal cavity using two sterile mops and secured their tails to the abdominal towels. The uterus was delivered through the incision traction on the fundus upwards exerted.

With the uterus held upwards the round ligaments were identified clamped, divided and transfixed on either side with chromic vicryl no. 2 on a round-bodied needle. The utero-vesical peritoneum was dissected with a pair of Mcindoes scissors to join the round ligaments anteriorly. The bladder together with the utero-vesical peritoneum was gently reflected off the cervix till the lower limit of the vaginal cervix.

The vagina wall was identified by feeling the lower limit of the cervix and the longitudinal muscle fibers of the vagina. The broad ligament was opened using a finger. The right infundibulo-pelvic ligament and ovarian vessels were clamped with artery forceps close to the level of the ovary incised and double ligated with transfixion suture using vicryl no1. Both ovaries and tubes were removed.

Posteriorly the utero-sacral ligaments were identified and the vagina by palpating for the lower limit of the vaginal cervix. The uterus was lifted upwards and the uterosacral reflection of the peritoneum was incised from the subsequent surface of the uterus and reflected downwards till the lower limit of the cervix was reached. Using Kocher's forceps, the uterine vessels on either side were clamped close to the cervix. The lower forceps were twisted to shear off the parametria.

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The pedicles were doubly ligated with a transfixion suture using vicryl no 1. The uterosacral ligaments were clamped using angled artery forceps, cut and transfixed on either side using vicryl no. 1. Having sufficiently retracted the bladder distally, straight artery forceps were applied to the right parametrium close to the cervix containing the transverse cardinal ligaments and the vaginal branch of the uterine artery was divided and transfixed with chromic catgut no. 1 the same was applied on the contralateral side. The uterus was lifted up; tissue forceps applied to the lateral angles of the vaginal vault, and using a knife the vagina was incised above the forceps but below the cervix. The divided anterior and posterior vaginal walls were held in the mid-line using the tissue forceps and vault painted with iodine swab to avoid contamination.

The uterus and cervix with vaginal flap were removed. The vaginal angles were then sutured using vicryl no 1 and the mid portion closed with two figures of eight sutures. After ascertaining that hemostasis was satisfactorily achieved, the vaginal vault was reapportioned with chromic catgut no. O and suspended to the peritoneum using the same sutures for transfixing the vaginal angles.

➢ *Post-Operative Procedure:*

The pelvis was cleaned of blood clots and the retractor and abdominal packs removed. After the correct instrument and swab count, the abdomen was closed in layers. Estimated amount blood loss was 500 ml; a specimen taken for histopathology. Abdomen was closed with vicryl (fascia) and skin with nylon. She was then returned to the ward. Blood pressure, pulse rate, respiratory rate, and vaginal bleeding were monitored half hourly for 6 hours, then 2 hourly for 24 hours. IV fluids: 3 liters/24 hours, 2 liters 5% dextrose water, and 1 liter normal saline. IM Pethidine injection 100 mg. 6 hourly for 24 hours was given.

- Antibiotics: Intravenous Metronidazole 500 mg 8 hourly and Intravenous Ceftriaxone 1g once daily for 48 hours. Patient kept nil by mouth till return of bowel sounds and continuous bladder drainage for 24 hours to monitor urine output against the input was done. Patient fared well and was discharged home on the 4th day, and stitches were removed on the 7th day to attend as an outpatient after 3 weeks for histopathology results, which revealed myometrium, cervix, and ovaries involved by granulomatous inflammation with Langerhans's giant cells typical of tuberculosis and no malignancy. Patient referred to medical clinic for anti-tuberculosis therapy and was seen after 2 months in good health.

IV. DISCUSSION

A present case with a patient of tuberculosis peritonitis, diagnosed with tissue pathology which had mimicking an advanced ovarian cancer was challenging the gynecologists' expertise since it was the rare case to occur in the gynecology department of Iringa regional referral hospital. Peritoneal TB is a specific generalized pathologies which contemporary with nonspecific sign and symptoms such as ascites and pelvic, abdominal pain and mass, which imitating an ovarian cancer[6].

The current case study reveals that tuberculosis peritonitis is a differential diagnosis of an advanced ovarian cancer in female patient which can be diagnosed through; laparoscopy, and histopathology. Similarly in other countries found that the mimicking an advanced ovarian cancer is a differential diagnosis of the tuberculosis peritonitis[7]

Unfortunately to this patient the investigation was not done and the diagnosis of ovarian tumor was based on clinical acumen and ultrasound findings. About 2/3 of the cases (TB peritonitis) are diagnosed during laparotomy procedure with the thought of other diseases. To that patient Laparotomy was performed in order to debulk the mass and do staging and histopathology a result is one which revealed that it was tuberculosis peritonitis. The illness would have involved in the other illness than overwhelming malignancy, particularly in low income nations since the illness are more pronounced in the endemic[8] .

Development of peritonitis TB frequently proceeds over time. Sono graphic characteristics of peritonitis TB shows adnexal mass, bonds and spectated or particulate ascites. In this patient ultrasound revealed adnexal mass and ascites without giving details of the nature of ascites probably this needs an experienced sonographer. Some studies show other forms of peritonitis TB diagnosed merely by tissue pathology. Concluding pathology delivered the crucial information and diagnosis for this client. Frozen unit can be utilized to ratify malignancy Intraoperative[9].

In this Case frozen section was not done because the facility is not able to do this investigation; hence the woman lost her uterus and both ovaries, which could be saved if this investigation was done. In addition standard microscopic section, the specimen can be examined by fluorescent antibody technique. Acid-fast Staining of tissue is effective in detecting the organism though this investigation is not routinely done at Iringa Regional Referral Hospital .In general Tuberculosis peritonitis should be considered in the differential diagnosis of a patient with pelvic mass and features of ascites in tuberculosis endemic area as in our circumstances[10].

V. CONCLUSION

The finding of the current case informed the gynecologist to be more precisely in diagnosis of the advanced ovarian cancer by having the tuberculosis peritonitis in their mind as the differential diagnosis and investing more diagnosis by employing laparoscope, pathology and histopathology to overcome the problem of tuberculosis peritonitis mimicking the advanced ovarian cancer hence preventing unnecessary total abdominal hysterectomy.

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- *Data Availability*

Information subsidiary the report's conclusions are limited within the report. Supplementary non relevant patient data are protected under patients' privacy regulations and procedure.

- *Consent*

Written informed consent was acquired from the patient to use her findings for publication of her condition.

- *Financial Support and Sponsorship*

There is fund for this case report.

- *Conflict of Interest*

There is no conflict of interest declared by authors.

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