



## RESEARCH ARTICLE

### SEVERE ACUTE PELVIC INFLAMMATORY DISEASE IN A PERIMENOPAUSAL WOMAN: CASE REPORT

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#### ABSTRACT

Pelvic inflammatory disease with severe, acute, life threatening manifestations is rare among perimenopausal, middle-aged and advanced reproductive aged women. We report a case of a 46-year old perimenopausal widow from a low socio-economic background with multiple sexual partners who presented with severe lower abdominal pain, vaginal discharge and fever of seven, six and four days duration respectively. These were associated with vomiting, frequent stooling and generalized body weakness. Physical examination revealed an acutely ill middle aged woman, febrile (temperature – 38.7°C), dehydrated, in painful distress with inability to walk erect. After systemic examination, diagnosis of severe acute pelvic inflammatory disease (PID) was made and this was confirmed with laboratory and radiological investigations. She was admitted, resuscitated and treated with relevant antibiotics and other supportive measures, with good outcome. She was subsequently educated and counseled appropriately before discharge and follow up. We conclude that though acute PID is rare among middle aged women, sporadic cases abound and high index of suspicion, prompt evaluation and treatment to avert mortality is recommended. Risk factors should be identified and addressed appropriately too.

**Key words:** Severe Acute PID, Perimenopausal Woman, Case Report

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#### INTRODUCTION

PID is infection and inflammatory disorder of the upper female reproductive tracts including the uterus, fallopian tubes and adjacent pelvic structures (Bhurt et al., 2009; Barlett et al., 2013; Haggerty and Ness, 2008). It is said to occur when exogenous or endogenous micro-organisms, mostly bacteria, infect the cervix, uterus, fallopian tubes, ovaries, parametrical structures and the pelvic peritoneum (Barlett et al., 2013; Haggerty and Ness, 2008) PID has been identified as the most serious and common complication of sexually transmitted infections (STI's) and of course most important complication of the female genital tract, causing major medical, social and economic problems worldwide (Haggerty and Ness, 2008; Spencer et al., 2014; Olowe et al., 2012). The WHO estimates that globally approximately 340 million new cases of curable STI's occur annually in individuals aged 15-49 years (Bhurt et al., 2009). Several risk factors have been identified in the causation of PID. These include young age, low socio-economic status, substance abuse, multiple sexual partners, male partners with genital infection, history of sexual abuse, history of STI, frequent vaginal douching, surgical procedures of the female genital tracts, use of spermicide and condoms containing non-oxynol -9, menstruation, childbirth and abortion

(Haggerty and Ness, 2008; Spencer et al., 2014; Olowe et al., 2012; Pam and Otubu, 2006). Though a disease of the female genital tracts, studies have shown that PID is rare among women above 35 years, perimenopausal and post-menopausal women as a result of decrease in female reproductive hormones with attendant reduction in sexual activities among women of this categories (Jackson and Soper, 1999; Cherney, 2018; Soper, 2018). This therefore is a case of a perimenopausal widow who presented with features of severe acute and life threatening PID who was promptly evaluated, investigated and treated. The risk factors for the occurrence of the disease in the woman was identified and appropriately addressed.

#### The case

Mrs CEU was a 46 year old para six, six alive (P<sub>6</sub> A<sub>6</sub>) widow who presented at the emergency room of Qua Iboe Church leprosy hospital (QICLH), Ekpene Obom, Etinan, Akwa Ibom State, Southern Nigeria, a secondary healthcare facility approved by the Faculty of Family Medicine of the West African College of Physicians (WACP), for the training of senior residents in family medicine. She complained of abdominal pain of seven days, vaginal discharge of six days and fever of four days duration. The pain was gradual in onset, continuous, localized to lower abdomen, severe, crampy and radiated to the lower back, with inability to walk erect. She also had painful intercourse and urination. There was associated

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copious, yellowish, foul-smelling vaginal discharge a day after. The fever was high grade, continuous, without chills and rigor. She also had history of vomiting, frequent stooling and generalized body weakness. She had neither done abortion nor any vaginal procedure in the recent past. She had taken some over-the-counter medications prescribed by auxiliary nurse without a sustained relief before presentation to us. She had nil history of chronic illness, previous hospitalization, blood transfusion or surgery. Her last menstruation occurred three months prior to presentation. Her menstruation had been irregular, with reduced duration and volume of flow over the past six months. She was not on any contraception and was P<sub>6</sub>A<sub>6</sub>. Vital elements in her family and social history include: she had no formal education, was a widow, abused alcohol (local gin, beer and palm wine), she had three male sexual partners (with unprotected sex) but stuck to one of them (whom she also was aware had another female sexual partner) six months prior to presentation. She did not take tobacco in any form. Physical examination showed she was acutely ill, in painful distress, bends forwards due to inability to walk erect. She was febrile (T-38.7<sup>0c</sup>), dehydrated (evidenced by dry lips and mucus membrane). Her abdomen was scaphoid but moved with respiration. There was suprapubic, right, left iliac fossae and right hypochondrial tenderness.

The liver and spleen could not be palpated, and the kidneys could not be balloted due to tenderness. Bowel sounds were heard though hypoactive. Vaginal inspection showed the vagina smeared with purulent discharge. Speculum examination revealed copious yellowish discharge from the cervical os. Bimanual examination revealed patulous, smooth and soft cervix. Uterus was tender but not bulky. Adnexae were tender but free of masses. Cervical motion tenderness was positive. The gloved fingers were stained with purulent malodorous yellowish discharge. Rectal examination showed good perianal hygiene. The rectal mucosa was tender and the gloved finger was stained with watery stool. Her pulse rate was 110 beats per minutes, regular but weak. Her blood pressure was 90/60mmHg. Her respiratory rate was 22 cycles per minute. Other aspects of cardiovascular and chest examination, as well as examination of other systems were essentially normal. With these findings a tentative diagnosis of severe acute pelvic inflammatory disease was made. This was communicated and explained to her. She was admitted after obtaining consent from her. The following investigations were done and the results showed: urinalysis- turbid appearance, protein ++, other components were negative, urine and endocervical swab -microscopy, culture and sensitivity (mlcls) yielded growth of *Staphylococcus aureus* and *Escherichia coli*, sensitive to ofloxacin, amoxicillin- clavulanate, ampicillin-salbutam (unasyn<sup>R</sup>), cefuroxime and tetracycline (with minimal sensitivity); full blood count showed white blood cells with mild toxic granulation, every other components were normal. HIV screening, hepatitis B and C tests were negative. Urea, creatinin and electrolyte assay showed normal findings. Abdominopelvic ultrasound scan showed free fluid collection at the pouch of douglas, while all other structures were sonographically normal. Stool analysis yielded no pathogen. Laparoscopy was not done because it was not available at the centre. As soon as specimens for m/c/s were collected, she was commenced on intravenous (IV) normal saline 1 litre first one hour, 1 litre for 4 hours, 1 litre 8 hourly then 12 hourly (while her urinary output was monitored), IV Ofloxacin 400mg 12 hourly, IV metronidazole 500mg 8 hourly, all for 48 hours, IV acetaminophen 600mg 8 hourly for 24 hourly. She was

instructed to avoid oral intake initially so as not to worsen the vomiting. Within the first 12 hours of admission, she had no fresh complaint. Her vital signs were monitored closely and showed evidence of response to treatment, her urinary output had also improved in response to the intravenous infusion. On the second day of admission, she reported improvement in her conditions as the pain, fever, vomiting and frequent stooling had reduced in intensity. Examination confirmed improved clinical condition and response to treatment. Her medications were reviewed and she was given the following drugs - IV Dextrose-saline 1 litre 12 hourly, IV ofloxacin 400mg 12 hourly, IV Metronidazole 500mg hourly and IV acetaminophen 600mg 8hourly, all for additional 24 hours. On the third day of admission she had no fresh complaint and had admitted remarkable improvement. She was also observed to have improved remarkably as she could walk erect. The abdominal pain, vomiting, fever, frequent stooling, vaginal discharge, painful urination and weakness had abated. Her urinary output was normal. General physical and systemic examinations showed normal findings. The IV infusions and drugs were discontinued and oral drugs: Tab ofloxacin-400mg 12 hourly, tab-metronidazole 400mg 8 hourly, all for 12 days were prescribed and dispensed to her. She was educated and counseled on principle of safe sex with emphasis on abstinence, use of condom and avoidance of multiple sexual partners. She was told to abstain from alcohol abuse. Her male sex partner was also educated and counseled on the need to avoid multiple sexual partners. A rapid HIV test was done for the man after brief counseling and consent obtained from him and the result was negative. He was given post test counseling. The following medications were prescribed and dispensed to him- Tab; ofloxacin 400mg 12 hourly, tab metronidazole 400mg 8 hourly, all for 14 days. CEU was instructed to report to hospital if she notices any symptoms of STI such as lower abdominal pain, vaginal discharge, burning or difficulty in passing urine or genital ulcers. She was then discharged for two follow-up visits-one week and four weeks respectively without any fresh complaint. She was subsequently referred to PAP smear test and mammography at the teaching hospital, which results were normal.

## DISCUSSION

The case has demonstrated that though PID is rare among middle aged, perimenopausal/menopausal women, sporadic cases do occur. Perimenopause is characterized by reduced levels of female reproductive hormones with attendant reduction in sexual activities (Jackson and Soper, 1999; Cherney, 2018; Soper, 2018). However the occurrence of the disease in the patient under discussion could be attributable to some elements in her family/social history including low socio-economic status, widowhood, multiple sexual partner with unprotected sex and alcohol abuse most of which are risk factors for PID (Haggerty and Ness, 2008; Spencer *et al.*, 2014; Olowe *et al.*, 2012; Harvey, 2018; Livengoo *et al.*, 2011). Clinically PID can manifest as acute or chronic, subclinical or overt disease. The overt cases could present with mild to moderate or severe symptoms, as occurred in CEU. According to CDC, minimal criteria for diagnosis of PID include uterine, adnexal and cervical motion tenderness (Haggerty and Ness, 2008; Pam and Otubu, 2006; CDC, 2018), all of which occurred in the patient. The triad of fever, lower abdominal pain and vaginal discharge, as occurred in CEU, strongly suggest the presence of PID (CDC, 2018). Other symptom such as vomiting, frequent stooling, dysuria and dyspareunia, as

occurred in the patient, further support the diagnosis of severe acute PID. Even though laparoscopy is the gold standard criterion for the confirmation of diagnosis of PID, no single test is highly sensitive or specific in the diagnosis of PID (Barlett and Levison, 2013; Olowe *et al.*, 2012; CDC, 2018). In the index patient, diagnosis was confirmed with pelvic ultrasound scan while microscopy and culture of urine and endocervical swab helped to isolate the causative microorganisms. While *Neisseria gonorrhoea* (30-80%) and *Chlamydia trachomatis* (20-40%) are the commonest organisms responsible for PID, and PID could be polymicrobial (Bhurt *et al.*, 2009; Pam and Otubu, 2006; Soper, 2018; CDC, 2018), *Staphylococcus aureus* and *Escherichia coli* were isolated from the patient. While mild to moderate cases of PID can be treated with parenteral/oral antibiotics on outpatient basis, it is recommended that severe cases of PID and, PID in Perimenopausal/postmenopausal women should be treated with hospitalization, parenteral medications and other supportive measures (Barlett *et al.*, 2013; Turner, 2012; Obunge and John, 2007; CDC, 2018), as was done to the patient under discussion. Several antibiotics regimens are recommended for treatment of PID (Olowe *et al.*, 2012; Pam and Otubu, 2006; CDC, 2018). CEU benefited from ofloxacin-metronidazole combination both empirically and definitely, with good response to treatment. Her sexual partner was also treated empirically with antibiotics effective against *N. gonorrhoea* and *C. trachomatis*, in accordance with CDC's recommendation (Barlett *et al.*, 2013; CDC, 2018). Measures aimed at prevention of PID such as health education to susceptible groups, sexual abstinence, avoidance of multiple sexual partners, use of barrier protection, treatment of male sex partner, prompt report of any symptom of SIT for treatment (Barlett *et al.*, 2013; Haggerty and Ness, 2008), were heightened to CEU. Need to avoid alcohol abuse which could influence her sexual behaviour and drive was also emphasized. Though PID is more of a common disease in young sexually active women, rare cases occur among older, perimenopausal and sometimes post menopausal women. The symptoms could be very severe in this older group of women, as seen in the index patient. Therefore timely evaluation and treatment to avert complications and mortality, identification of risk factors and counseling to prevent subsequent occurrence in this category of women, are recommended.

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