

A curious case of familial predisposition to pelvic inflammatory disease

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Objectives

This is a case of multigenerational recurrent PID that highlights the importance of genetic factors in developing the disease and the impact of family history on treatment.

Case report:

Background

- 29-year-old G2P2 woman who received a copper IUD 3 months post-partum.
- Two months later, she developed severe pelvic pain and abnormal discharge.
- She and her partner were referred to the GUM clinic and were screened for STIs, which all came back negative.

Treatment

- Empirical antibiotics were started, including ofloxacin and metronidazole.
- Subsequently, her culture was positive for *E. coli* infection, and as her symptoms did not improve, she was treated based on culture sensitivity test with ceftriaxone and azithromycin.
- Her symptoms improved initially, but she developed chronic recurrent pelvic inflammatory disease (PID) that was present for the next 5 years.
- She underwent extensive investigation including laparoscopy, which did not reveal any abscess and excluded endometriosis.
- Eventually, her symptoms resolved from a 3-month long course of the combination of metronidazole and co-trimoxazole.

Complications

- However, she developed chronic pelvic pain as a complication of the recurrent disease, for which she underwent surgical denervation procedure that resolved her symptoms.

Repeated Family Episode

- 19 years later, her daughter, who had normal vaginal birth, developed similar PID symptoms, and her culture also returned *E. coli* as positive but other STIs negative
- . She was tried on the standard antibiotic regime, but similarly to her mother, she developed recurrent PIDs and complications.
- She was eventually treated with the same protocol of metronidazole and co-trimoxazole which resolved her symptoms and her PID never returned.

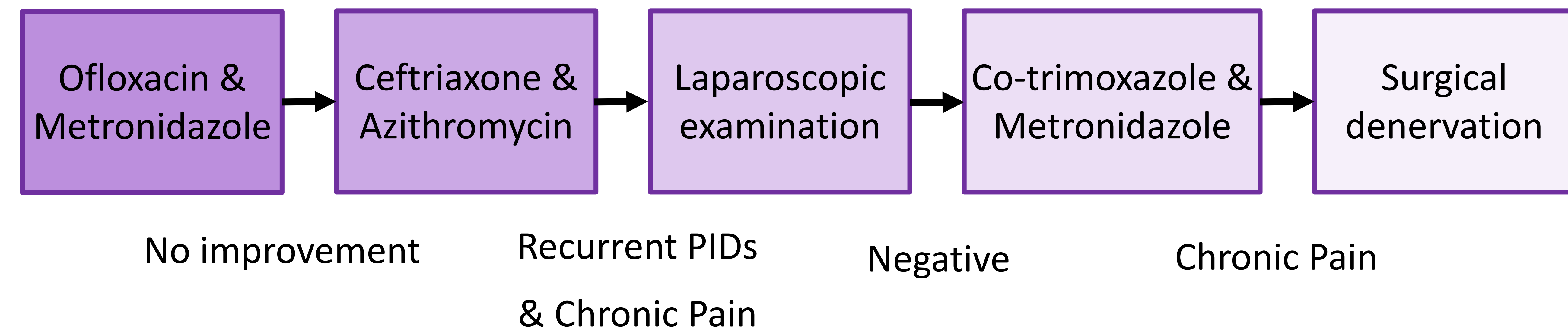
Discussion

The use of copper IUD has been long-known as risk factor for developing PID¹. However, there is evidence that inserting the device is merely a triggering factor in precipitating the disease, and the cervix of these women is already colonised with the infectious organism². The normal vaginal flora is protective against cervical colonisation with pathogenic bacteria, and studies have shown that genetic factors play an important role in the composition of the vaginal microbiome³. Our case report illustrates this in form of a hereditary predisposition to *E. coli* associated PID, likely linked to the similar composition of the vaginal flora in the family.

Conclusion

This case highlights the importance of considering family history in the management of non-STI-induced PID. Further research should focus on investigating what components in the vaginal flora increase predisposition to PID caused by enterobacteria.

Course of events during the mother's treatment



References

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3. Chen, X., Lu, Y., Chen, T. & Li, R. The Female Vaginal Microbiome in Health and Bacterial Vaginosis. *Front Cell Infect Microbiol* 11, (2021).