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Editorial

Pelvic Inflammatory Disease and the Daunting Task to Make the Diagnosis and to Evaluate the Cure

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Pelvic Inflammatory Disease (PID) is a condition where the upper female genital tract is infected by a variety of bacteria. The major problem that researchers face when they are trying to conduct clinical trials in this field is the lack of a gold standard. Except for the presence of tubo-ovarian abscess, all the possible diagnoses are controversial or not practical. For instance, visualizing Fallopian tubes with signs of inflammation has been proved to have a low kappa index [1]. Pathology has been considered the gold standard for many conditions, but not for PID. For instance, we published data on the presence of endometritis in cases of PID. Clinical cure was higher, compared to histological cure. Of note, some cases with clinical diagnosis of PID had no endometritis in the first endometrial biopsy; later, after clinical cure, had a diagnosis of endometritis [2].

For practical reasons, after excluding other possible causes of recent pelvic pain, (recent has been considered by most of the authors as < 30 days), a low threshold should be used for treating a patient with PID. When we say a low threshold, it is equal to the incidence of the place where you are working at. In our Gynecologic Emergency Unit, we have a 12% incidence of PID [3]. According to others, if *Chlamydia trachomatis* was considered, the incidence is around 30% [4]. This 30% incidence is in line to the 20% of infertility due to tubal factor [5]. Thus, the recommendation to have a high sensitivity and low specificity to detect PID [6].

Clinical cure is another issue. The use of a reduction of 70% of initial pain score has been considered by many authors as a criterion of clinical cure [7]. The McCormack scale is a fancy scale, varying between 0 and 36 points, used mainly in research with limited clinical use [8].

From the theoretical point of view, it seems reasonable to use this criterion on pain reduction. However, after applying it in clinical trials, we realized that this is not adequate. Considered 2 cases with clinical diagnosis of PID. The first one had an initial score of 30, the second, 12. After treatment, the first one had a score = 9, the second had a score = 4. According to the 70% reduction rule, the first patient achieved cure, while the second not. This can be more awkward, 2 patients, the first one arrived with pain score = 10 and the second with 5 and both, after treatment, had a pain score = 2. The first achieved cure, while the second, not, despite they had the same pain score.

Unless we develop a better method for diagnosing PID and to evaluate cure, it seems reasonable to present all raw data for the readers, so they may reach their own conclusions and take their decisions.

For instance, two clinical trials were recently published [9,10]. Dean., *et al*. conducted a non-inferiority trial (< 10% difference) between 2 treatments, ofloxacin+metronidazole and ceftriaxone+azithromycin+metronidazole. Cure rates for treatment of PID reached 47.1% (72 out of 153) and 42.5% (68 out of 160), using the 70% reduction definition, in ofloxacin+metronidazole and ceftriaxone+azith romycin+metronidazole groups, respectively. The non-inferiority was not achieved [10.6% (95%CI = -23.2% to 1.9%)] [9]. Nevertheless,

the rates of cure were very different, whether any reduction (≥ 1 point) was considered: 61.4% (94 out of 153) and 69.4% (111 out of 160) and non-inferiority was achieved [7.9% (95%CI = -0.02% to 18.2%)].

Wiesenfeld., *et al*. compared the use or not of metronidazole for PID to assess the need for a broader anaerobic coverage in PID [10]. From the clinical cure, there was no difference between using or not metronidazole with ceftriaxone+doxycycline after 3 days of treatment (clinical improvement), but these authors found a significant difference in endometrial microorganisms. The presence of *Gardnerella vaginalis* and *Atopobium vaginae* was higher in women that used placebo [10]. However, the concept of the endometrium as a sterile environment has been challenged by others [11].

In conclusion, from the clinical point of view, we need to treat PID as soon as we exclude other major diagnosis in order to prevent the sequelae from the inflammation, i.e. infertility, chronic pelvic pain and ectopic pregnancy. Due to a low specificity, these patients should be seen again in 48 - 72 hours for reevaluation. Cure criteria are still debatable but must include how well the patient feels and the side effects of the treatment.

Conflict of Interest

None to declare.

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