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Editorial

Tuberculosis peritonitis

In the last year's issue [Taiwan J Obstet Gynecol 2011;50(3)], Wu et al reported an interesting article entitled "Disseminated peritoneal tuberculosis simulating advanced ovarian cancer: A retrospective study of 17 cases" and concluded that a diagnosis of disseminated peritoneal tuberculosis should be considered in relatively young female patients with the nonspecific symptoms of abdominal distension, wasting, and lymphocytic ascites without malignant cells [1].

There is no doubt that it might be relatively difficult to make an accurate diagnosis of tuberculosis (TB) peritonitis at the authors' institute [1], as we noted that nearly all of the patients had undergone surgical intervention; in addition, nearly 75% of the patients underwent more invasive and traumatic procedures, such as exploratory laparotomy [1]. In contrast, TB peritonitis might not be so worrisome if the majority of the patients did not receive surgical intervention at the authors' institute. We encourage that authors had better provide the number of TB peritonitis during the study period to answer this question.

The overuse of unnecessary exploratory laparotomies to diagnose these medical diseases, especially inflammatory diseases such as tuberculosis and actinomycosis, needs further discussion [2]. We recognize that, sometimes, it is very difficult to diagnose TB peritonitis without the assistance of surgical intervention, which suggests that the diagnosis of TB peritonitis is often delayed until after an exploratory laparotomy can be performed to confirm the malignant clinical presentation [2–4].

Certainly, we can accept that a diagnosis of TB peritonitis may be treacherous in these cases. However, these dangers seem to be created by acts of omission [3]. All doctors should know about the possibility of TB peritonitis, even though the incidence might not be particularly high. All doctors should try their best, over the long term, to treat patients who could be infected with TB peritonitis and also present with the abovementioned symptoms and signs. If we recognize these infectious diseases, unnecessary surgical intervention can be minimized. In fact, the last case of TB peritonitis we remember at our hospital was diagnosed by exploratory laparotomy about 10 years ago [4], and the last tubo-ovarian abscess induced by actinomycosis was diagnosed about 8 years ago [2].

There is no doubt that every physician will be anxious when they face a similar case, but the use of more invasive diagnostic tools and/or management strategies, such as exploratory laparotomy, to treat these uncertain but highly suspicious medical diseases should be minimized [5]. In our clinical practice, we recognize that exploratory laparotomy cannot be completely avoided [6,7], but we welcome the authors' suggestion to use less-invasive procedures to obtain tissue samples as the preferred choice instead of using extended surgeries to diagnose these patients. However, we emphasize that even the use of these less-invasive procedures delays the possibility of diagnosing TB peritonitis or other infectious diseases using modern medical technology.

At least two comments addressing the importance of distinguishing TB peritonitis from other forms of peritoneal carcinomatosis have been previously published [3,8]. Unfortunately, Dr. Wu's paper [1] did not take this important information into account, even though we had announced it (TB peritonitis should be always considered in the differential diagnosis of abdominal carcinomatosis) in the 2004 issue of the *Taiwanese Journal of Obstetrics and Gynecology* [8]. It is necessary to remember that we have many potential diagnostic tools available to help us diagnose TB peritonitis [3,8]. These tools consist of the following: (1) the laboratory approach, which includes determining various biochemical parameters, such as elevated erythrocyte sedimentation rates and normochromic normocytic anemia, a positive tuberculin test, cell count analysis of the ascites that reveals lymphocytic predominance, a low serum ascites albumin gradient ($<$1.1 g/dL), and increased adenosine deaminase (an enzyme involved in the proliferation and differentiation of lymphocytes that is increased during the cellular immune response to mycobacterial antigens); (2) imaging studies, including ultrasound with or without color Doppler ultrasound (e.g., some typical characteristics include caseous, necrotic changes, small size, and scattered miliary tubercles), computed tomography, and magnetic resonance imaging; and (3) invasive procedures, including blind percutaneous peritoneal biopsy. The surgical approach, either laparoscopy or ultraminilaparotomy [9], is the latest and most effective tool for obtaining a definite diagnosis of TB peritonitis.

Of course, based on the abovementioned information, physicians can minimize the use of exploratory laparotomy for

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diagnosing these medical diseases if we do not overlook the possibility of TB peritonitis or other infectious diseases, such as actinomycosis [2,10,11].

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