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Vector-Borne and  
Zoonotic Diseases

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**PASTEURELLA MULTOCIDA ZOOBOTIC ASCENDING  
INFECTION:  
AN UNUSUAL CAUSE OF TUBOOVARIAN ABSCESS**

Journal:	<i>Vector-Borne and Zoonotic Diseases</i>
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Keyword:	Zoonotic
Abstract:	We report a tubo-ovarian abscess due to <i>Pasteurella multocida</i> . This zoonotic infection was likely of ascending origin, since <i>Pasteurella</i> was also isolated from vaginal swab.

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Manuscripts

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3 ***PASTEURELLA MULTOCIDA* ZOOONOTIC ASCENDING INFECTION:**  
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5 **AN UNUSUAL CAUSE OF TUBOOVARIAN ABSCESS**  
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10 **David Baud<sup>1\*</sup>, Alain Bizzini<sup>2\*</sup>, Katia Jatton<sup>2</sup>, Chahin Ahtari<sup>1</sup>, Guy Prod'hom<sup>2</sup> and**  
11 **Gilbert Greub<sup>2,3</sup>**  
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15 \* Equally contributing authors  
16  
17  
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20 <sup>1</sup> Department of Obstetrics and Gynaecology, University Hospital of Lausanne, Maternity-  
21 CHUV, Lausanne, Switzerland  
22  
23

24 <sup>2</sup> Institute of Microbiology, University Hospital Centre and University of Lausanne,  
25 Lausanne, Switzerland  
26  
27

28 <sup>3</sup> Infectious diseases Service, University Hospital Centre and University of Lausanne,  
29 Lausanne, Switzerland  
30  
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32  
33  
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36

37 **Corresponding author:** Gilbert Greub  
38  
39 Institute of Microbiology  
40  
41 University Hospital Center and University of Lausanne  
42  
43 Bugnon 48  
44  
45 1011 Lausanne  
46  
47 SWITZERLAND  
48  
49  
50  
51 Phone: (00) 41 21 314 49 79  
52  
53 Fax: (00) 41 21 314 40 60  
54  
55 Email: [gilbert.greub@chuv.ch](mailto:gilbert.greub@chuv.ch)  
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**ABSTRACT:**

We report a tubo-ovarian abscess due to *Pasteurella multocida*. This zoonotic infection was likely of ascending origin, since *Pasteurella* was also isolated from vaginal swab.

**Keywords:** *Pasteurella multocida*, tubo-ovarian abscess, zoonotic infection, urogenital infection

**TEXT**

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A 34-year old woman, gravida 1, para 1, with an uneventful past medical and surgical history, presented after two months of worsening low abdominal pain and flu-like syndrome. She exhibited no urinary, digestive or pulmonary symptoms. She had normal regular menstrual cycles and did not present any past gynaecological problems. A copper intra-uterine device (IUD) was inserted three years ago after the birth of her first child. She was living alone and denied any sexual partners for 2 years.

Her admission vital signs were normal, with temperature of 37°C. Physical examination showed diffuse tenderness of the low abdomen. Cervical examination revealed bilateral pelvic tenderness. Vaginal discharge appeared physiologic. The patient denied any contact with pets or other animals, except her parents' two dogs, who she regularly takes care of. However, she did not present any skin lesions or scratches.

Laboratory analysis showed a white cell count of 20'000 cell/ $\mu$ l and a CRP of 276 mg/l. The patient immediately received amoxicillin-clavulanate, metronidazole and doxycycline intravenously, but developed spiking fever after treatment initiation. Thoraco-abdominal CT-scan revealed a 7 cm right-sided abdominal mass and multiple retro-peritoneal adenopathies. Vaginal ultrasound confirmed the presence of an organised tubo-ovarian abscess (Figure 1A), without free abdominal liquid. The patient underwent laparoscopy, which showed a pelvic mass adherent to bowel, the omentum and to the posterior wall of the uterus. Despite inflammation of the peritoneum, there was neither intraperitoneal pus nor adhesions. There was no evidence of diverticulitis or appendicitis. During laparoscopic adhesiolysis, this adherent mass ruptured, showing a caseous thick content (Figure 1B).

Postoperatively, the patient defervesced rapidly under the same intravenous antibiotics. Serologies (HIV, HBV and HCV) were all negative. Histopathology showed a tubo-ovarian empyema. Blood, urine and IUD cultures remained sterile. All samples were PCR negative

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3 for *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and *Mycobacterium tuberculosis*. A  
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5 broad-spectrum 16SrRNA eubacterial PCR performed on the abdominal washing and on the  
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7 caseous tubo-ovarian abscess revealed *Pasteurella multocida* DNA. Later, conventional  
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9 cultures of these samples demonstrated the presence of *P. multocida* after enrichment step and  
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11 two colonies were recovered from vaginal swab primocultures. The patient was discharged on  
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13 day 5 post-surgery and underwent a 14-day course of oral amoxicillin-clavulanate, with a  
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15 favourable outcome.  
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19 *Pasteurella multocida* is a gram-negative coccobacillus present in oral flora of domestic and  
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21 wild animals [1]. Human infection is rare and mostly seen in children or immuno-  
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23 compromised patients [2]. Zoonotic transmission results from pet bites or scratches [3] and  
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25 can cause severe infections, including pneumonia, necrotizing fasciitis, septic shock and  
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27 meningitis. *Pasteurella multocida* infection of the uro-genital tract has been reported [4-10]  
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29 related to miscarriage in pregnant women [11].  
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33 Previously described *Pasteurella multocida* tubo-ovarian abscesses have been associated with  
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35 bacteremia secondary to pet scratches or bites [4, 6, 7]. A *Pasteurella multocida* bacteremia  
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37 may lead to a secondary tuboovarian localization and subsequently to vaginal discharge  
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39 containing the bacterium. In our case, *Pasteurella multocida* was recovered from both the  
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41 vaginal swab and tubo-ovarian abscess. Since the patient had neither skin bite, scratches nor a  
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43 positive history of such events, an ascending vaginal *Pasteurella* infection may have  
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45 occurred. Tubo-ovarian abscess secondary to such an uncommon organism, likely of zoonotic  
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47 origin, should be considered in absence of other more common etiology in the differential  
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49 diagnosis of pelvic inflammatory disease.  
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## DISCLOSURE STATEMENT

No competing financial interests exist.

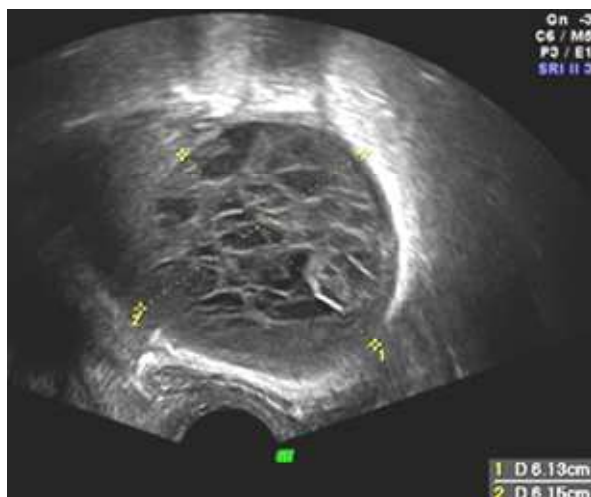
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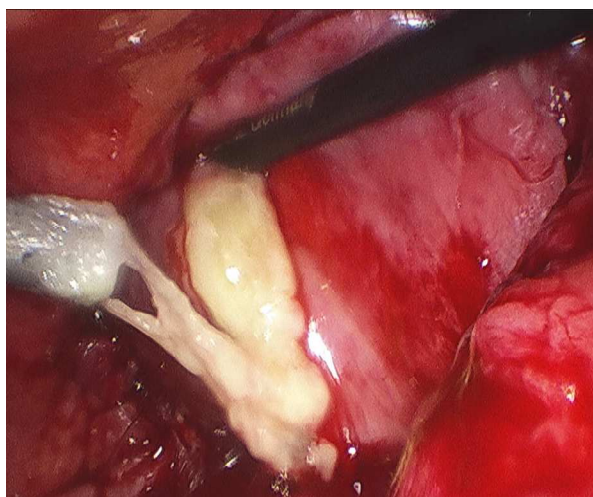


**FIGURE 1**

Ultrasound (A) and laparoscopic (B) pictures showing the tubo-ovarian abscess and its caseous content.

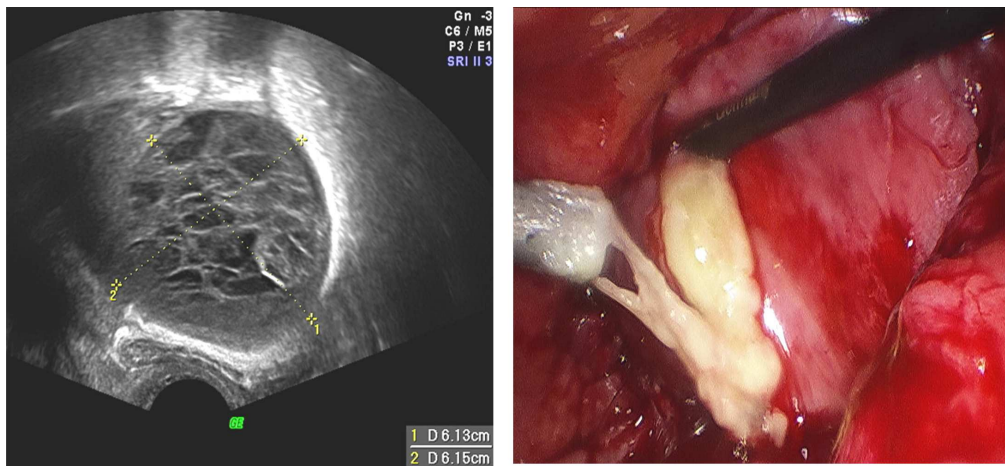


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Ultrasound (A) and laparoscopic (B) pictures showing the tubo-ovarian abscess and its caseous content.  
183x84mm (300 x 300 DPI)