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Clinical manifestations of *Mycoplasma hominis* infection

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[Introduction]

Mycoplasma hominis colonize genitourinary tract. It can cause genital infection in women and extragenital infection in both women and men. Although culture is the gold standard to find this pathogen, it is difficult. And another diagnostic method such as polymerase chain reaction is not usually available in most hospital. So the clinical presentation of *M. hominis* infection is not well known.

We investigated clinical isolates of *M. hominis* in a tertiary care hospital. We also investigated whether it caused infectious disease or not. And we investigated the treatment of this infection and outcome.

[METHODS]

We performed a retrospective analysis of clinical isolates of *M. hominis* at a tertiary care hospital in Japan from January 2013 to December 2015.

Cases were identified via microbiology laboratory reports, and relevant clinical data were collected from the electronic medical record.

All the isolated *M. hominis* were confirmed by sequencing of the 16S rRNA genes according to the previous report 1).

We investigated source of clinical specimen, treatment of the patient and outcome.

Sensitivity test was done by E-test.

[PCR primer]

Forward : 5' -CAATGGCTAATGCCGGATACGC-3'

Reverse : 5' -GGTACCGTCAGTCTGCAAT-3'

【Blood culture】

- BacT/ALERT 3D (Sysmex)
- FA Plus culture bottle／FN Plus culture bottle (Sysmex)

【Growth medium】

- Sheep blood agar (BD)
- Chocolate agar (Eiken)
- Brucella Agar with H & K (Gokuto)

【Culture】

- Aerobic culture : 35°C
- CO₂ culture : 35°C、7% CO₂
- Anaerobic culture : 35°C anaerobic

【Gram stain】

- neo-B&M wako (Wako industry)

[RESULTS]

	Age/ Sex	underlying disease	culture	identifica tion	antibiotics before PCR result	additional intervention
Case1	28/F	Caecilian section	Blood/uterine content	PCR	Piperacillin/Tazobactam	Minomycin
Case2	66/F	Caecilian section	Blood/abscess	PCR	Ampicillin/Sulbactam	Minomycin
Case3	29F	Caecilian section	Uterine content	PCR	Ampicillin/Sulbactam	Minomycin
Case4	35F	Ovarian cancer	Abscess	PCR	Ampicillin/Sulbactam	Drainage only
Case5	27F	Caecilian section	Uterine content	PCR	Meropenem	Clindamycin
Case6	22F	Caecilian section	Abscess	PCR	Ampicillin/Sulbactam	Clindamycin

Case 1: Patient had been treated with ampicillin/ sulbactam. After culture results physician changed antibiotics to minocycline and performed surgical drainage. Patient resolved completely.

Case 2: Patient had been febrile after surgery. Surgical drainage was performed. And physician changed antibiotics to minocycline.

Case 3: *M. hominis* was isolated from uterine content. Patient resolved after changing antibiotics to minocycline.

Case 4: Patient resolved after repeated drainage of abscess. Gram stain and culture of abscess revealed negative including anaerobic culture.

Case 5: Patient had been treated with meropenem.

After PCR assay result physician changed antibiotics from meropenem to clindamycin. Patient became afebrile and resolved completely.

Case 6: Patient had been treated by ampicillin/ sulbactam. Patient became afebrile after changing antibiotics to clindamycin.

[CONCLUSIONS]

All the patient had been febrile before effective drainage or effective antibiotics. So *M. hominis* was considered at least one causative organisms. Although case 4 was treated only surgical drainage with ineffective antibiotics, patient resolved completely. It might means that the virulence of *M. hominis* may be lower than another pathogen such as *Staphylococcus aureus*, *Klebsiella pneumonia* or *Escherichia coli*.

All cases were diagnosed in OB/GY department. Since our laboratory does not usually perform PCR assay for *M. hominis*, OB/GY physician might suspect its infection and ordered PCR. We can not conclude that only OB/GY surgery is the cause of true *M. hominis* infection.

Further study should be necessary to estimate the clinical characteristics of *M. hominis* infection.

Reference)

Kojima A, Takahashi T, Kijima M, Ogikubo Y, Nishimura M, Nishimura S, et al. Detection of Mycoplasma in avian live virus vaccines by polymerase chain reaction. *Biologicals*. 1997; 25(4):365–71.