

## CASE REPORT

Pathogenic *Sarcina* in urineKarthik Bommannan,<sup>1</sup> Balan Louis Gaspar,<sup>2</sup> Man Updesh Singh Sachdeva<sup>1</sup>

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**SUMMARY**

*Sarcina* is a Gram-positive anaerobic coccus that has been consistently reported in the upper gastrointestinal tract biopsies of patients with evidence of gastric stasis. The pathogenic role of *Sarcina* in humans is not entirely known. We describe an infant who was surgically treated for posterior urethral valve and the urine showed pathogenic *Sarcina*.

**BACKGROUND**

*Sarcina* is a Gram-positive anaerobic coccus that is well known for its association with lethal ‘abomasal bloat’ in the livestock. In recent years, *Sarcina* has been consistently reported in the upper gastrointestinal tract (UGIT) biopsies of patients with evidence of gastric stasis.<sup>1</sup> The pathogenic role of *Sarcina* in human beings is not clear. Other than the gastrointestinal tract, a *Sarcina* has been documented in a case of lung infarction.<sup>2</sup> We describe an infant who was surgically treated for posterior urethral valve with bilateral grade V vesicoureteric reflux and the urine showed pathogenic *Sarcina*.

**CASE PRESENTATION**

A male infant aged 10 months with posterior urethral valve and bilateral grade V vesicoureteric reflux underwent transurethral fulguration. The

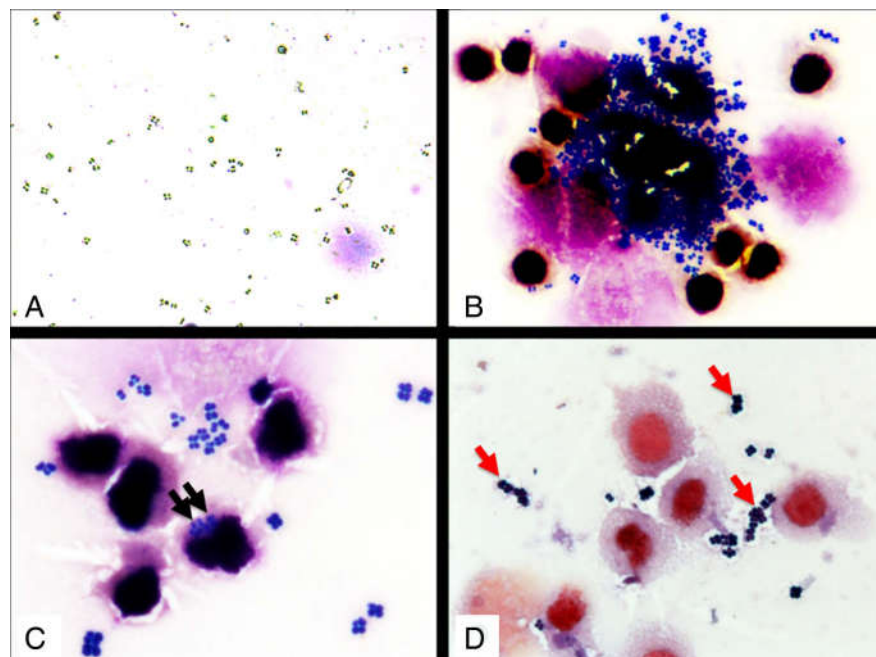
postoperative period was uneventful. After 5 months, he developed stricture of the membranous urethra and was treated by urethral dilation. The routine urine specimen was turbid. Subsequently, under aseptic precautions, a suprapubic aspiration of urine sample was collected. Wet-mount preparation of the suprapubic urine sample showed plenty of pus cells. In addition, organisms with morphology consistent with that of *Sarcina* were seen (figure 1A). May-Grünwald Giemsa staining was performed on the air-dried urine smears (figure 1B, C). The smears revealed tetrad and octet arrangement of Gram-positive cocci characteristic of *Sarcina* (figure 1D). A few were also seen within the cytoplasm of the phagocytes. However, the urine cultures were sterile.

**TREATMENT**

The child received a combination of ciprofloxacin and metronidazole for 2 weeks and the repeat urine samples were negative for *Sarcina*.

**OUTCOME AND FOLLOW-UP**

Since the facilities for sequencing of *Sarcina* genome were not available in our centre, the urine samples were not further subjected to molecular genetic studies for confirmation.



**Figure 1** *Sarcina* in urine. (A) Unstained wet-mount urine preparation showing plenty of *Sarcina*; (B) air-dried urine smears stained with May-Grünwald Giemsa showing clusters of *Sarcina*. (C) Black arrow shows phagocytosed *Sarcina*; (D) Gram-positive *Sarcina* (red arrows).



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