Actinobaculum schaalii - invasive pathogen or innocent bystander? : a retrospective observational study

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Actinobaculum schaalii is a Gram-positive, facultative anaerobic coccoid rod, classified as a new genus in 1997. It grows slowly and therefore is easily overgrown by other pathogens, which are often found concomitantly. Since 1999, Actinobaculum schaalii is routinely investigated at our hospital, whenever its presence is suspected due to the detection of minute grey colonies on blood agar plates and negative reactions for catalase. The objective of this study was to determine the clinical significance of Actinobaculum schaalii, identified in our microbiology laboratory over the last 11 years.; All consecutive isolates with Actinobaculum schaalii were obtained from the computerized database of the clinical microbiology laboratory and patients whose cultures from any body site yielded this pathogen were analyzed. Observation of tiny colonies of Gram-positive, catalase-negative coccoid rods triggered molecular identification based on 16S rRNA gene sequencing.; 40 isolates were obtained from 27 patients during the last 11 years. The patient's median age was 81 (19-101) years, 25 (92.6%) had underlying diseases and 12 (44.4%) had a genitourinary tract pathology. Actinobaculum schaalii was isolated in 12 urine cultures, 21 blood cultures, and 7 deep tissue biopsies. Twenty-five (62.5%) specimens were monobacterial, the remaining 15 (37.5%) were polybacterial 7/7 deep tissue samples (three bloodcultures and five urine cultures). Recovery from urine was interpreted as colonization in 5 (18.6%) cases (41.6% of all urine samples). Six (22.2%) suffered from urinary tract infections, six (22.2%) from abscesses (skin, intraabdominal, genitourinary tract, and surgical site infections) and 10 (37.0%) from bacteremia.; In this largest case series so far, detection of Actinobaculum schaalii was associated with an infection–primarily sepsis and abscesses–in 81.5% of our patients. Since this pathogen is frequently part of polymicrobial cultures (42.5%) it is often overlooked or considered a contaminant. Detection of Actinobaculum schaalii in clinical isolates mainly reflects infection indicating that this Gram-positive rod is not an innocent bystander.

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