

Case Report

Neonatal sepsis due to *Weeksella virosa*

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ABSTRACT

Weeksella virosa was previously included in group II f of CDC. We here present the Microbiological characteristics of the isolate from a case of neonatal sepsis at our center. The organism is a non-fermenter growing only on blood agar and not on Mac Conkey agar, oxidase and catalase positive, and negative for several other bio-chemical tests, except for indole with Ehrlich's reagent. The isolate in the present case study was sensitive to aminoglycosides and β -lactams, and resistant to quinolones and carbapenems.

Keywords: *Weeksella virosa*, Non-Fermenter, Blood Agar

INTRODUCTION

In 1923 genus *Flavobacterium* was created to include non-sporulating chemo-organotrophic rods. Clinical interest in *Flavobacterium* species was first aroused by Vandepitte et al in a case of meningitis caused by this micro-organism.¹ A study of biochemical behavior of *Flavobacterium* species by Owen and Holmes divided this genus into saccharolytic and non-saccharolytic. The latter included group II f of CDC. In 1986 Holmes et al² performed a taxonomic study of 29 strains of group II f isolates from different clinical samples and concluded that the strains formed a new genus and a new species, and named it as *Weeksella virosa*. We present the Microbiological characters of a strain of *Weeksella virosa* obtained from a blood culture sample in this case study.

CASE REPORT

A blood culture sample from a neonate, 1 day old, suffering from sepsis was sent to the laboratory. The sample was incubated in BACTEC 9050 system (SIEMENS), which flagged positive after 24 hours of incubation. A Gram's stain from the broth revealed Gram

Negative Rods (GNRs), which was intimated to the clinician. The broth was then sub-cultured onto blood agar (BA), chocolate agar (CA) and Mac Conkey agar (MAC), which were incubated over night at 37°C in a carbondioxide incubator. It was observed the following day that the organism grew on BA and CA, but not on MAC. A Gram's stained smear showed GNRs. The isolate was inoculated into a Gram negative panel (using Pluronic broth from the manufacturer) of Microscan autoSCAN 4 (SIEMENS) instrument, and incubated over night. The panel was read the next day, which identified the isolate as *Weeksella virosa*.

DISCUSSION

Weeksella virosa are GNRs which produce non-hemolytic and mucoid colonies on BA and CA. They do not grow on MAC. They are catalase and oxidase positive, non motile, non fermenters, and are positive for indole only with Ehrlich's reagent. They are negative for amino acid utilization tests and other routine biochemical tests.³ *Weeksella virosa* are commonly isolated from female genital tract. Extra genital sites of isolation include blood, umbilical area, rectal area, ears, eyes and CSF.² The mucoid appearance of *Weeksella virosa* can be

easily confused with *Klebsiella* species and can be wrongly interpreted in urinary isolates.² Slenker et al⁴ had reported a fatal case of *Weeksella virosa* sepsis in a young female with end stage renal disease. Meherwal et al⁵ had reported isolation of two strains of *Weeksella virosa* in their study on non fermenters in complicated nosocomial urinary tract infections which were resistant to aminoglycosides and quinolones.

Table 1: Antibiotic susceptibility with Minimum Inhibitory Concentrations (MICs).

Drug	MIC	Interpretation
Amikacin	<16	Sensitive
Amox/K Clavulanate	<8/4	Sensitive
Ampicillin	<8	Sensitive
Cefepime	<8	Sensitive
Cefotaxime	<2	Sensitive
Ceftazidime	4	Sensitive
Ciprofloxacin	>4	Resistant
Ertapenem	>4	Resistant
Gentamicin	<4	Sensitive
Imipenem	>4	Resistant
Levofloxacin	>4	Resistant
Meropenem	>8	Resistant
Moxifloxacin	>1	Resistant
Piperacillin/Tazobactam	<16	Sensitive
Norfloxacin	>8	Resistant
Tobramycin	<4	Sensitive
Piperacillin	<16	Sensitive

The isolate in the present case was susceptible to aminoglycosides and β -lactams, and resistant to quinolones and carbapenems. Mark Faber et al⁶ had reported *Weeksella virosa* in a case of CAPD peritonitis which was resistant to aminoglycosides, co-trimoxazole, ciprofloxacin, cefazolin and ceftazidime, but sensitive to ampicillin, ceftizoxime, imipenem and mezlocillin. Mansula et al⁷ had reported *Weeksella virosa* in a case of

pneumonia with septicemia in an immune-compromised patient with lymphoblastic leukemia, and proved its pathogenic role by isolating the same organism in two samples each of sputum and blood respectively. The isolate in their study was susceptible to beta lactams and resistant to aminoglycosides. In the present case study the neonate could have been infected during parturition, mother being a carrier, leading to early onset septicemia, since *Weeksella virosa* is commonly isolated from female genital tract, many females being carriers.¹ The neonate in the present case study was treated with intravenous Piperacillin/Tazobactam, and the baby recovered normally.

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