

Isolation of an Unidentified Pink-Pigmented Bacterium in a Clinical Specimen

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Received 16 November 1987/Accepted 4 February 1988

An unidentified pink-pigmented bacterium isolated from a clinical specimen is reported. The organism was oxidase, urease, and catalase positive; it grew on Thayer-Martin and MacConkey media. The isolate is possibly similar to an unnamed taxon (G. L. Gilardi and Y. C. Faur, *J. Clin. Microbiol.* 20:626-629, 1984); however, it had unique characteristics of nonmotility with no flagellum detectable and was a gram-negative coccoid with a few rods in pairs and negative for starch hydrolysis.

Gilardi and Faur (1) reported on 21 strains of pink-pigmented bacteria that were gram-negative oxidative rods and motile by means of a single flagellum. Seven of the strains described were designated an unnamed taxon (1).

In the present report, we describe another unidentified strain of a pink-pigmented bacterium. The diagnostic problem posed by this bacterium creates a need for greater awareness of this type of organism among microbiologists and the need for further characterization.

Case history. A 9-month-old boy was admitted on 9 July 1984 to an emergency ward of the University of Ilorin Teaching Hospital, Ilorin, Nigeria. The main presenting clinical features were fever and cough of 4 days' duration and a 1-day history of dyspnea. The patient appeared very ill and toxic, with a dry cough and tachypnea. Epiglottitis was diagnosed. Antibiotic therapy was initiated with intravenous ampicillin (200 mg every 6 h), and a starting dose of hydrocortisone (4 mg/kg [body weight]) was given.

The hospital stay of the patient was uneventful, and the only relevant clinical information was that the patient was discharged well on hospital day 5.

Bacteriological investigation. Before antibiotic therapy, a blood culture and nasal and throat swabs of the patient were sent to the Department of Medical Microbiology and Parasitology for bacteriological investigation.

No pathogen was recovered from the throat and nose swabs of the patient. However, the only blood culture received on subculture showed small (1- to 2-mm diameter) pink-pigmented colonies on chocolate agar at 48 h after incubation at 37°C. The organism was a gram-negative coccus arranged in pairs with a few gram-negative rods.

Further tests were done to identify the organism. The

organism grew on Thayer-Martin and nutrient agar in a candle extinction jar at 37°C with incubation for 24 h.

The organism was oxidase and catalase positive. Initial tests showed no acid production from glucose, maltose, sucrose, and lactose. There was no serological reaction with *Neisseria meningitidis* grouping antisera A, B, C, Z, W-135, and X (Centers for Disease Control [CDC], Atlanta, Ga.).

Other media on which the organism grew aerobically at 37°C included MacConkey agar and CLED medium (Oxoid Ltd., Basingstoke, England).

In view of the fact that the characteristics of the organism did not conform to those of any known taxon, it was sent to other reference laboratories, including the CDC in Atlanta.

It was confirmed that the organism was an unidentified pink-pigmented bacterium. The detailed characteristics are shown in Table 1. The designated reference number of the unnamed bacterium at the CDC was CDC 84-060300.

The organism is of interest in that the identity posed a problem. The exact pathogenic role of the organism is unclear because only one blood culture was available for investigation. This is the first time to our knowledge that a pink-pigmented organism from a clinical specimen has been reported from a tropical country. The organism is a pink-pigmented gram-negative coccus with a few rods. It is nonmotile and oxidase and catalase positive. It grows on Thayer-Martin and MacConkey agar. One of the reference laboratories considered that the organism might be *Rhodococcus equi*. However, it is to be noted that *R. equi* is usually a gram-positive coccus and does not grow on MacConkey agar, whereas our unidentified organism is a gram-negative coccus with a few gram-negative rods and grows on MacConkey agar.

The organism is possibly similar to an unnamed taxon reported by Gilardi and Faur (1).

The following characteristics are, however, unique to our isolate. It has nonmotility with no flagellum detectable, is a gram-negative coccoid with a few rods, and is negative for starch hydrolysis.

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TABLE 1. Characteristics of the unidentified pink-pigmented bacterial isolate compared with those of Gilardi-Faur bacterial strains and CDC extorquens^a

Test	Unidentified isolate (CDC 84-060300)	Gilardi-Faur ^b		CDC extorquens ^c (90 strains)
		Cluster 1 (14 strains)	Cluster 2 (7 strains)	
Morphology	Coccioid with a few rods	Short plump rods in pairs	Rods	Rods
Vacuolar rods	—	+, 14/14	—, 0/5	+
Flagella	None detected	1, Polar	1, Polar	1, Polar
Gram reaction	—	—	—	—
Motility	—	+	+	+
Catalase	+	+	+	+
Oxidase	+	+	+	+
Urease	+	+	+	V, 29 (26)
Indole	—	—	—	—, 0
Nitrate reduction	—	3/14	0/7	V (25)
Nitrite reduction	—	—	—	—
Simmons citrate	—	—	—	—, 2 (3)
Hydrolysis				
Gelatin at 14 days	—	—	—	—, 0
Starch (on Mueller-Hinton medium; Oxoid)	—	+	+	—
Casein	—	—	—	—, 0
Esculin	—	—	—	—, 0
Litmus milk digestion	—	—	—	—
Triple sugar iron agar				
Slant	Alkaline	—	—	—, 0
Butt	Neutral	—	—	—, 0
H ₂ S paper	+	—	—	V (47)
Oxidative-fermentative basal medium				
Glucose	Alkaline	4/14	0/7	V (40)
D-Xylose	Acid	13/14	3/7	+
Mannitol	Alkaline	0/14	3/7 acid	— (2)
Lactose	Alkaline	—	—	0
Sucrose	Alkaline	—	—	0
Maltose	Alkaline	—	0/7	(2)
Growth				
25°C	+	—	—	+
35°C	+	9/14	7/7	+
42°C	+	0/14	+, 7/7	V (12)
Nutrient broth	+	—	—	+
Nutrient broth + 6% NaCl	—	—	—	— (0)
Growth				
MacConkey agar	+	—, 0/14	+, 7/7	V (15)
Thayer-Martin agar	+	—	—	—
Tellurite agar	—	—	—	—
Cetrimide	—	—	—	—
Salmonella-shigella medium	—	—	—	— (0)
Sheep blood agar	+	—	—	—

^a +, Positive; —, negative; V, variable. Some results are expressed as number positive/number tested; others give the symbol followed by the number of strains. Percentages are given in parentheses.

^b Gilardi and Faur (1) described 7 strains of an unnamed taxon that constituted their cluster 2; the 14 strains in their cluster 1 were similar to *Methylobacterium extorquens*.

^c CDC extorquens data were provided courtesy of Robert E. Weaver, Special Bacteriology Reference Laboratory, CDC, Atlanta, Ga.

Because very scanty information on pink-pigmented organisms is in the literature, we support more reports on similar organisms to facilitate better characterization and to determine their possible role in human infections.

We thank the CDC, Atlanta, Ga., for confirming the laboratory tests of the unnamed organism, and, in particular, we are grateful to Robert E. Weaver of the CDC for advice and critical review of the manuscript. We acknowledge the opinions expressed by D. M.

Harris, Department of Medical Microbiology, Hallamshire Hospital, Sheffield, England, and that of the National Collection of Type Cultures, London, England.

LITERATURE CITED

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