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Potentially Pathogenic, Nonfermentative, H_2S-Producing Gram-Negative Rod (1 b)

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An unnamed, polarly flagellated, nonfermentative, H_2S-producing gram-negative rod which was isolated from pathological material of 13 adult individuals is described.

In a 1964 survey, King (4) listed 22 strains of a nonfermentative, H_2S-producing rod not described hitherto and provisionally named "1 b." Since 1962, we have been able to isolate 13 strains of this bacterium from human adults and 1 strain from a contaminated tissue culture.

Bacterium "1 b" is an aerobic, gram-negative rod which grows at 22 and 37 C (but not at 42 C) on all routine media used in the clinical laboratory. After 24 hr of growth on blood-agar, individual organisms are short, and the raised colonies appear tan to brownish. Later, microscopic pleomorphism, increased pigmentation, a green discoloration under the colonies, and an unpleasant smell can be noted. On MacConkey and desoxycholate agar, "1 b" grows in flat, tan, non-lactose-fermenting colonies; in thioglycollate medium, surface growth and diffusion of the tan pigment are apparent.

The organism is motile by means of one polar or subpolar flagellum. In Triple Sugar Iron Agar, the butt shows no *p*H change, the slant is alkaline, and H_2S formation occurs alongside the stab. No sugars are fermented and, as a rule, none is oxidized in OF (3) media, but occasional strains may oxidize glucose, sucrose, maltose, or xylose (R. E. Weaver, *personal communication*). Falkow decarboxylase media (2) with arginine, lysine, and ornithine remain unchanged. The tests for catalase, oxidase (Kovacs), nitrate (to nitrite), and gelatin liquefaction are positive. Tests for indole, urease (Rustigian and Stuart), and citrate utilization (Simmons), as well as the methyl red and Voges-Proskauer reactions, are negative. Our strains show variable antimicrobial susceptibilities. With the method of Bauer et al. (1), 12 of 13 were sensitive to chloramphenicol, nalidixic acid, kanamycin, and coly-mycin; 10 were sensitive to streptomycin; 9 were sensitive to tetracycline; and only 2 of 10 were sensitive to cephalothin.

It is noteworthy that 5 of our 13 strains, 2 of them repeatedly, were isolated from ear discharges of patients with chronic otitis media. (Two of King's strains were also isolated from the ear.) Four strains originated from chronically infected leg ulcers, three from sputa of patients with pneumonia (one also from the common bile duct of the same individual), and one from a urine with an insignificant bacterial count of 9,000 per ml. All patients except one had been hospitalized, but their cultures had been taken within 24 hr of admission. There was no history of previous admissions or antimicrobial therapy, although the simultaneous presence of other, often multiply resistant bacteria would suggest previous treatment. Ten strains were found together with (and in the same quantity as) other gram-negative rods (*Escherichia, Klebsiella, Proteus, Pseudomonas* species) or enterococci, and one each was found together with *S. aureus* and group A streptococci. Only when "1 b" was repeatedly isolated together with *S. epidermidis* from an ear infection could its pathogenicity be unequivocally demonstrated. All strains were apparently community-acquired.

The morphological and biochemical characteristics of "1 b" would place the organism close to, if not in, the genus *Pseudomonas*, family *Pseudomonadaceae*.

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