Infection Due to Nocardia farcinica in a Woman with Chronic Granulomatous Disease

Nocardiosis, an infecion due o an aerobic ac inomyce e, has no pronounced endend ce of remission and exacerba ion. The Nocardia asteroides complex comprises three species: N. aster-

PCR me hods were very useful in ha hey allowed early de ec- 
on of mycobac erial DNA and he de ermina ion of i s non uber-
culos mycobac erial origin. The specific PRC echnique allowed 

Thierry Prigogine, Guy Stoffels, aryse Fauville-Dufaux, 
Christine Trolin, and Christian Raftopoulos

Free University of Brussels and Institut Pasteur, Brussels, Belgium

References
2. Miller WC, Perkins MD, Richardson WJ, Sex on D. Po ‘s disease caused 

4. American Thoracic Socie y. Diagnosis and rea men of disease caused by 

Purulen ma erial ob ained by CT-guided aspira ion was found 

o be smeared posi ives afe er bo h zielh-Neelsen and auramine s aining. PCR de ec ed DNA from non ubercul cus mycobac eria. Cul-
ure by use of he BACTEC sys em (Bec on Dickinson, Cockeys-
ville, MD) revealed grow h o. Xenopi, firs iden ified by specific 
PCR and secondarily by biochemical es ing and gaschromo gra-

PCUR

Oxacin was added o he pa ien ‘s herapeu ic regimen when 

. xenopi was iden ified. Two mon hs la er, because of he en-

grow of he abscess, a drainage ca he er was inser ed, yielding 

300 mL of purulen ma erial. Auramine s aining of his ma erial 
again demons ra ed acid-fas bacilli, bu cul ures remained nega-
ive. The abscess cavi y was irriga ed wi h povidone-iodine. Ther-
apy wi h pyrazinamide and oxacin was discon inued, and ci-
profloxacin was added o he herapeu ic regimen.

A second percu aneous drainage wi h lavage was performed 1 
on hs la er because here was no improvemen in he pa ien ‘s 
condi ion; his procedure yielded 150 mL of purulen ma erial. Acid-fas bacilli were no de ec ed, by ei er direc examina ion 
o cul ure.

Medical tea men was con inued for 18 mon hs, wi h clinical 

improven and biological normaliza ion. CT performed 17 
on hs la er comple ed he abscess, and his procedure yielded 
locula ed fluid collec ion, despi e he pa ien ‘s sa isfac ory clinical 
s a c.

Primary psoas muscle abscess is an uncommon infec ion and 
cau ed mos of en by infec ion due o Staphylococcus aureus. To 
our knowledge, his is he firs descrip ion of a case of primary 
psoas muscle abscess caus ed o. xenopi [2].

The port of en ry of he bacillus remains an enigma; repea ed 
sudies (radiographic and scin igrap hic) failed o demons ra e a 
pulmonary, bone, or o her source for he psoas muscle infec ion.
A 56-year-old woman with CGD and a 1-month history of fever and a cough productive of greenish sputum failed to respond to treatment with erythromycin. She was admitted to the hospital.

Her medical history included recurring inguinal lymphadenitis, pulmonary sarcoidosis, and coliis. In 1988, she was read for breast carcinoma. In 1994, masisis due to infection with Aspergillus fumigatus was diagnosed, and she was read with amphotericin B; however, therapy was changed to with itraconazole because her renal function had deteriorated. CGD due to p47phox deficiency was diagnosed. Treatment for CGD with interferon and prophylaxis for infection with co-rimoxazole were discontinued because of side effects.

On admission to the hospital, the patient’s temperature was 39°C. Auscultation over the upper lobe of the right lung revealed the presence of fine crackles. The erythrocyte sedimentation rate (71 mm/h) and the WBC count (14.4 x 10^9/L with left shift) were elevated, and anemia was present (hemoglobin level, 42.5 g/dL). A chest radiograph and a chest CT scan revealed a cavernous lesion, 7 cm in diameter, in the right upper lobe of the lung (figure 1). Bronchoscopic examination revealed no abnormalities, but gram staining of the bronchoalveolar lavage fluid and biopsy specimens showed gram-positive, filamentous and branched bacteria, which were fluorescing with UVex 2B (R&R, Kandern, Germany). With an assumed diagnosis of nocardiosis and consideration of the amphotericin B–induced renal damage, iv cefotaxime (1 g q.i.d.) and imipenem (500 mg q.i.d.) were administered. The fever resolved, and, within 6 months, the pulmonary cavernous lesion resolved.

Aerobic incubation of the bronchoscopic specimens at 37°C for 4 days yielded folded, heaped, slightly orange colonies producing an aerial mycelium. The microorganism was partially acid-fast, was resistant to lysozyme, and produced urease and acid from glucose and rhamnose. N. farcinica was identified on the basis of negative decomposition of adenine, casein, xanthine, hypoxanthine, and yrosine; equal growth at 35°C and 45°C; opacification of Middlebrook agar; results of qualitative evaluation of cell-wall and cell wall protein patterns [1, 5]. Specific characteristics of species within the N. asteroides complex include growth at 45°C for 3 days, growth on various nitrogen and carbon sources, and specific enzyme activities; however, the organism may also be identified by analysis of an ibioic resistance panel [1, 5]. N. farcinica is resistant to ampicillin, cefadroxil, kanamycin, ombramycin, gen amicine, and erythromycin; moderaely susceptible to cefamandole and cefoxime; but susceptible to sulfonamides, amoxicillin/clavulanic acid, imipenem, and amikacin. Therapy with cefoxime and imipenem was continued because of a favorable response to this regimen. After 6 weeks, the herapeutic regimen was changed to oral minocycline, 100 mg b.i.d.

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The lungs, brain, and ramusic and poro operaive wounds were the most common sites of infection due to N. farcinica among 65 cases, but the paranasal sinuses, the oral palae, and the eyes can also be involved [2, 3, 5–9]. Mouse studies demons rae e ha N. farcinica is more virulent than N. asteroides [6]. More patients with N. farcinica infecions [2, 3, 6–9] are immunocompromised (70%) than are patients with N. asteroides infecions [1]. N. farcinica has a greater tendency to disseminate e [6] of the CNS [3], but it also disseminates to the joints, kidneys, bones, and endocardium [2, 3, 5, 6].

In our pa ien , the primary lesion was loca ed in the right lung. Lack of dissemination and the low number of infected cells in her you may be due to residual killing activity in the granulocy es. Consis en wi h his hypothesis, a recent report described residual superoxide produc ion of he granulocy es in seven of 11 adult CGD pa ien s for whom he ra e of infec ious complications was low during you h [10].

Sulfonamides are still the rea men of choice for infecions due to N. farcinica [2, 3]. Good herapeu ic result s wi h mono herapy or various combina ions of imipenem, amikacin, amoxicillin plus clavulanic acid, and minocycline have also been reported [2, 3]. Combina ions of imipenem and amikacin or cefoxime and imipenem are effective and synergistic against N. asteroides in the mouse model [3], but for N. farcinica, such da a are no available.

Figure 1. Radiograph and CT scan (insert) of the horax of a pa ien wi h chronic granuloma ous disease and infecion due o Nocardia farcinica. A cavernous lesion developed 1 mon h af er admission (arrow).
Neisseria are case-con role studies comparing efficacy of various regimens.

C. A. P. Fijen, J. Schrama, E. E. Kuiper, P. Boiron, W. Gerrissen, and P. Speelman

Department of edical Microbiology and Department of Internal Medicine/Infectious Diseases, Academic edical Centre, University of Amsterdam, and Department of Hematology/Oncology, Anthoni van Leeuwenhoek Hospital, Amsterdam, the Netherlands; and Unite de ycologie, National Center for ycoses and Antifungal Agents, Institut Pasteur, Paris, France

References


Neurosyphilis and Syphilitic Gumma of the Adrenal Gland

Syphilitic gummas have been described in different body organs, bu syphilis of the adrenal gland is rare; only two cases were reported in the first half of the century [1]. As far as we know, ours is the first case of syphilitic gumma of the adrenal gland reported in recent years.

A 66-year-old male was admitted to the hospital in 1996 with a 2-week history of abdominal pain and constipation and diminished vision in the right eye; he had had hypertension, polydipsia, and gait disturbance for several months.

On admission he was afibrile and had angular cheilitis and a small keria orid lesion on the right oral commissure. He was omen ed with x 3, but his shorn head and firmness of the abdomen was impaired. He had diminished ceral vision in the right eye, with minimal blurring of the disk margins on the right. He had mild upper extremity weakness at the pronouced on left hemiparesis on right. His gait was broad-based and mildly ataxic.

Laboratory studies revealed the following values: sodium, 137 mEq/L; potassium, 5.2 mEq/L; chloride, 102 mEq/L; hyponatraemia, 0.82 μg/dL; and thyroid-stimulating hormone, 33.86 μg/dL. A test for thyroid autoantibodies was positive. The erythrocyte sedimentation rate was 3 cm in 45 minutes. A CT scan of the abdomen showed a left adrenal mass with a central cystic area and a prominent right adrenal gland. MRI of the head showed ischemic changes. Therapy with a hydrcortisone was started at admission. Six days later, he

pa ien suddenly became somnolent. His vital signs were: temperature, 102.4°F; pulse, 85/min and regular; and blood pressure, 84/44 mm Hg. He was resuscitated with intravenous fluids, hydrocortisone, and antibiotics. All cultures were negative. The cortisol level at the time of diagnosis was 18 μg/dL [2, 3], and he resulted a of a cosynropin test were normal.

Addiction work-up revealed a rapid plasma reagent (RPR) or er of 1:18,192, and a serum fluorescent treponemal test (FTA) test was positive. Serology for IgG and IgM antibodies to Borrelia burgdorferi was positive, but PCR assays of blood and CSF were negative. Laboratory ory studies revealed the following values: sodium, 137 mEq/L; potassium, 5.2 mEq/L; chloride, 102 mEq/L; hyponatraemia, 0.82 μg/dL; and thyroid-stimulating hormone, 33.86 μg/dL. A test for thyroid autoantibodies was positive. The erythrocyte sedimentation rate was 3 cm in 45 minutes. A CT scan of the abdomen showed a left adrenal mass with a central cystic area and a prominent right adrenal gland. MRI of the head showed ischemic changes. Therapy with a hydrcortisone was started at admission. Six days later, he

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