Case report

**ISOLATION OF ONYCHOCOLA CANADENSIS FROM FOUR CASES OF ONYCHOMYCOSIS IN BELGIUM.**

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**ABSTRACT**

*Onychocola canadensis* can cause onychomycosis of the toenails. Thirty-two cases have been described as a cause of onychomycosis in three cases in Canada in 1990 [2]. Since then 29 additional cases in Canada, New Zealand, France, the United Kingdom, Spain and Turkey [3-9] have been reported. *Onychocola canadensis* is probably a cosmopolitan fungus and is assumed to be widely distributed in nature although attempts to isolate it from the environment have been unsuccessful [3]. The organism affects elderly people in particular. The mean age of the previously described patients is 69.8 years.

We report four cases of onychomycoses associated with *Onychocola canadensis* acquired in Belgium between 1996 and 2001.

**PATIENTS AND METHODS**

**Case 1:** A 72 year old male, retired bricklayer, who lives in the country and likes to work in his garden, presented in January 1996 to his general practitioner with a history of a single big toenail infection for about one year. The patient did not report a stay abroad nor any traumatic event associated with the nail. On direct microscopy, performed at the local laboratory, the specimen was seen to contain fungal hyphae. The culture of the mould was sent to our laboratory for identification. The patient was treated with terbinafine cream. Therapy was discontinued after one month. The toenail is still infected.

**Case 2:** A 63 year old male went in November 1999 to a dermatologist with all toenails thickened, yellowish brown and friable. The nails had already been infected for 20 years. The patient had never lived in the countryside and did not report a stay abroad or a trauma of his toenails. Nail scrapings of the big toenail were sent to our laboratory. Direct examination revealed fungal hyphae and arthrospores. The patient was treated...
with terbinafine orally for four months followed by itraconazole pulse therapy without improvement.

Case 3: A 58 year old male, with a history of a long-term stay in the country, presented in March 2000 to a dermatologist with an infected big toenail and athlete's foot. The patient did not report foreign travel or a trauma of his toenail. Nail scrapings of the big toenail were submitted to our laboratory. Direct examination revealed fungal hyphae and arthrospores. *Onychocola canadensis* grew from every nail inoculum. Pulse therapy with oral itraconazole was given during three months. The patient himself reported that the infection had been cured. This outcome has not been verified by a clinician.

Case 4: A 67 year old male presented to a dermatologist in April 2000 with onycholysis of his big toenail. The nail had already been infected for more than five years. The patient had not been abroad. Nail scrapings were sent to the local laboratory. On direct microscopy, fungal hyphae were seen. The culture of the mould was sent to our laboratory for identification. The patient had already been treated with oral itraconazole for two years without improvement. In May 2000 the therapy was changed to terbinafine. The outcome is not known.

**RESULTS AND DISCUSSION**

The specimens were cultured on conventional media: Sabouraud peptone glucose chloramphenicol agar and Sabouraud peptone glucose chloramphenicol cycloheximide agar. Diluted Sabouraud agar (1/10) was used for the subcultures. *Onychocola canadensis* was isolated in pure culture in all cases. Identification was performed according to Sigler and Congly [2].

In the literature, 32 cases of onychomycosis caused by *Onychocola canadensis* have been described. Fifteen cases are confirmed by direct examination which reveals fungal elements compatible in morphology with those of *Onychocola canadensis*, and repeated isolation [2-4,6,8,9]. No repeat culture was possible for ten cases, but these cases showed absence of isolation of a dermatophyte and/or heavy and exclusive growth of *Onychocola canadensis* and presence of arthroconidia and hyphae typical of *Onychocola canadensis* or dissimilar to those of a dermatophyte [3-4]. The seven remaining cases revealed hyphae and arthroconidia without special features by direct examination and no repeat cultures were performed [5, 7]. In the latter cases, the etiology of *Onychocola canadensis* could thus not be established.

In our cases, direct examination was positive but did not show irregular hyphae. No dermatophyte was isolated in association but due to the lack of repeated sampling, we could not reisolate *Onychocola canadensis* in any of these patients. In one case, *Onychocola canadensis* was isolated from every nail inoculum piece. What we document here are four cases of onychomycosis associated with *Onychocola canadensis*, and suggestive, although not proven to be caused by this organism.

According to the previously published cases, the mean age of our patients at the time of diagnosis was 65 years and the preferential site of infection was the big toenail. In contrast to previous reports which showed a predominance in females, all our patients were males. None of our patients reported foreign travel. We can therefore assume that *Onychocola canadensis* is present in Belgium. Two out of three patients reported a long term stay in a rural area.

Treatment with either terbinafine or itraconazole was started in all patients. Although not much is known about the optimal therapy for onychomycosis caused by *Onychocola canadensis*, therapy was probably discontinued too early by one patient (case 1). One patient reported himself to be cured, two cases did not improve after treatment and one patient was lost to follow-up.

**ABSTRACT**

*Onychocola canadensis* is gekend als verwekker van onychomycose van teenagels. Tot op heden werden tweeëndertig gevallen beschreven. Wij rapporteren vier gevallen van onychomycose, opgelopen in België, waarbij het rechtstreeks onderzoek positief was en *Onychocola canadensis* werd geïsoleerd in reinculutur. In overeenstemming met vorige publicaties betreft het oudere patiënten en is de grote teenagel de prefereriete infectieplaats. Alle patiënten zijn van het mannelijk geslacht wat in tegenstelling is tot de vrouwelijke predominantie die in de literatuur te vinden is. Behandeling werd opgestart in alle patiënten. Bij twee van de drie patiënten waarvan het resultaat gekend is, trad geen verbetering op.
REFERENCES


