

## ONYCHOMADESIS OUTBREAK IN VALENCIA, SPAIN, JUNE 2008

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Onychomadesis describes complete nail shedding from the proximal portion. It is consecutive to a nail matrix arrest and can affect both fingernails and toenails. It is a rare disorder in children. Except for serious generalised diseases or inherited forms, most cases are considered to be idiopathic. Nail matrix arrest has been associated with a variety of drug exposures and systemic illnesses, including infections, and may result in a variety of changes, including transverse ridging (Beau's lines) and nail shedding (onychomadesis).

Hand-foot-mouth disease (HFMD) is a contagious enteroviral infection occurring primarily in children and characterised by a vesicular palmoplantar eruption and erosive stomatitis. The association of HFMD with Beau's lines and onychomadesis has been reported by Bernier *et al.*, 2001 [1] and Clementz *et al.*, 2000 [2].

Since 15 June 2008, an increasing number of cases of onychomadesis have been detected in dermatology hospital services. The suspicion of an epidemic started when 14 cases at a kindergarten were reported by the school health care services. Twelve of the cases were children between one- and two-years old. At the same time, a paediatric dermatology clinic notified five cases from others places within Spanish public health surveillance procedures.

Revision of the medical literature did not indicate an ongoing epidemic outbreak of onychomadesis anywhere else in the world.

By the end of this analysis on 30 June 2008, 180 cases in children have been reported to the public health services, after the alert communication to the health care services.\* A case was defined as "a child with loss of nails without previous traumatic or systemic disease". The majority of cases were children at the age of one or two years (see Table).

A preliminary analysis of data from 89 cases revealed an association with 'hand, foot and mouth' disease (HFMD) as antecedent of onychomadesis within 30 days after clinical diagnosis from paediatric or dermatology consultation. (Odds for HFMD/CASE 5.836; CI95%: 2.113-16.120;  $p < 0.001$ ).

A case-control study is being carried out. Habits, diet, previous diseases in the 60 days before onychomadesis, treatments and exposure to other cases of HFMD are being investigated. Blood and faeces samples are being collected from paired cases and controls, aiming to identify the virus related with the illness. Mycosis and heavy metals have been ruled out as the cause by specialised laboratories.

No hypothesis has currently been established, but epidemiologic investigation suggests a strong cause-relation with some enterovirus. Initial results as of 2 July have detected IgG antibodies against coxsackie virus in 52 subjects (22 positive cases and eight positive controls). Multi-ethnic origin, absence of geographical concentration and age-related concentration excludes a personal characteristic or condition and reinforces the hypothesis virus activity changes.

To our knowledge, such an outbreak has not been described in Spain before.

\* On the day of publication of this article, on 3 July 2008, the total number of confirmed cases was 213.

TABLE

Number of onychomadesis cases by age, Valencia, Spain, June 2008

Age	No. of cases	Percent
<1 year	7	3,8
1 year	72	40
2 year	69	38
3 year	20	11
4 year	8	4,4
5 year	3	1,6
7 year	1	0,5
Adults	2	1,1
Total	182	100

### References

- Bernier V, Labrèze C, Bury F, Taïeb A. Nail matrix arrest in the course of hand, foot and mouth disease. *Eur J Pediatr.* 2001 Nov;160(11):649-51
- Clementz GC, Mancini AJ. Nail matrix arrest following hand-foot-mouth disease: a report of five children. *Pediatr Dermatol.* 2000 Jan-Feb;17(1):7-11.

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