Noma Neonatorum

N.C. Prajapati
P. Chaturvedi
R.R. Bhowate
S. Mishra

Noma, a Greek word meaning 'de'vour' was described by Tourdes in 1848 as reported by Tempset(1). The term noma neonatorum (NN) was coined by Ghosal et al. in 1977(2). It is a rare gangrenous disease, that results in mutilating loss of tissue. We report two such cases along with review of literature.

Case Reports

Case 1: A male baby, first of twins, was delivered vaginally at 34-36 weeks of gestation with a birth weight of 1340 g and Apgar score of 9, 10 and 10 at 1, 5 and 10 minutes, respectively to a second gravida. The second male twin weighed 1240 g. Both of them were kept in Special Care Neonatal Unit (SCNU) and fed expressed breastmilk (EBM) by nasogastric (NG) tube.

On 8th postnatal day, the first of the twins developed induration of lips and erythema of labial, palatal and alveolar mucosa with few black spots on the gum pad. Intravenous benzyl penicillin, gentamicin and metronidazole were started after taking samples for culture. By 10th day, there was conjunctivitis of both eyes and vesicular necrotic lesions developed in the groin. In view of clinical deterioration, nasogastric feeds were discontinued and cefotaxime was added to the therapy. Sclerema along with erythema and edema of the scrotum were also noticed. Culture reports (taken...
from several sites) revealed a polymicrobial growth, with *Pseudomonas aeruginosa* being the most common organism from all sites and was sensitive only to ciprofloxacin and amikacin. Antibiotics were, therefore, changed to ciprofloxacin and amikacin. An antibiotic—antifungal solution was applied to local lesions every two hourly. This antibiotic antifungal solution was prepared fresh everyday, by adding 20 mg of intravenous preparation of ciprofloxacin, 20 mg of IV preparation of metronidazole and 10,000 IU of nystatin suspension to 500 ml of distilled water. A remarkable improvement was noticed and by 15th day NG feeds were resumed. Antibiotics were given for three weeks. Necrotic areas shed by 38th day leaving partial loss of upper and lower lips, upper gums, anterior palate and tip of the tongue (Fig. 1). The second of the twin and mother were normal.

**Case 2:** A full term female baby was delivered to a primi mother by Cesarean section. The birth weight was 2220 g and Apgar score 2, 4 and 8 at 1, 5 and 10 minutes, respectively. She was being managed in the SCNU for HIE grade II and received IV benzyl penicillin, gentamicin and phenobarbitone. Blood cultures sent before starting antibiotics were sterile. On day 7 she developed erythema and induration of both lips with blackish discoloration. Based on our experience with the earlier case of noma (Case 2), same treatment, viz., IV ciprofloxacin, amikacin, metronidazole and cleaning of lesions by antibiotic antifungal solution was started. By the 10th day, the baby improved, lesions started regressing and nasogastric feeding with EBM was started. By day 16 the lesions had healed completely and breastfeeding was resumed. Antibiotics were continued for three weeks. There was no scar or mutilating loss of tissue.

**Discussion**

Noma and noma neonatorum are considered different entities. The former has been described in children aged 2-5 years and is caused by *Borellia vincentie, Bacillus fusiformis, Bacteroids* and *Staphylococcus* species, while the latter is seen within the first month of life and *Pseudomonas aeruginosa* is the most common causative organism(3,4).

On review of the available literature, only 53 cases of NN have been reported. Noma in newborns was almost unknown till 1977, when Ghosal *et al.* from Calcutta reported 48 cases and coined...
this entity as noma neonatorum(2). However, one case reported in 1930 is probably the first case of noma in a neo-
nate(1). The other reported cases of NN are, one each from Washington(3), Israel(5), China(6) and India(7).

Noma neonatorum has no predilec-
tion for birthweight or gestation. Oral
 cavity is the most common site of in-
volve ment, the others being nose, eyelid, 
umbilicus, scrotum and groin. Onset of
the disease has been reported to range 
from 3rd postnatal day to 120 days. 
Pseudomonas aeruginosa has consistently 
been isolated from all cases. The disease is 
fatal in majority of the cases with only 
6 survivors amongst 54 cases (including 
two of ours) reported till date. Mutilat-
ing loss of tissue has occurred in all pa-
tients except in Case 2 of the present re-
port.

Noma neonatorum needs to be 
treated aggressively with antibiotics 
cover against Pseudomonas species. 
Apart from supportive care, local 
measures like, repeated irrigation of the 
local lesions seems beneficial as the 
pooled secretions have a heavy concen-
tration of causative organisms and the 
concentration of antibiotics in the secre-
tions attained by systemic administra-
tion is doubtful. Extensive surgical 
derbridgement is contraindicated in these 
cases and reconstructive surgery is ad-
vocated at least one year after the resolu-
tion(8,9).

REFERENCES

9. Adekeye EO, Ord RA. Cancrum Oris: Principles of management of recon-