CASE REPORTS

Alcohol Withdrawal Syndrome in a Newborn Infant of a Yukon Indian Mother

O. SCHAEFER, M.D.,* *Whitehorse, Yukon, N.W.T.*

ACUTE and chronic alcoholism and its social, medical and legal consequences are the most important problems faced by the authorities of the Yukon Territory, particularly in respect to the Yukon Indians.

The magnitude of this problem is illustrated by the fact that between 60 and 80% of all outpatients and inpatients treated by the author in the last 18 months in Whitehorse required medical attention because of the direct and indirect effects of alcohol. These effects include accidents, venereal disease acquired during alcoholic bouts, and neglected, malnourished and exposed children of alcoholic parents.

Many alcoholics with and without withdrawal symptoms of varying degrees were observed. The alcohol withdrawal syndrome in adults and also, in recent years, in juveniles and even children is a well-known and well-described entity. Therefore it is not necessary to enlarge on this subject, except to describe a most interesting case observed in a newborn Indian infant, for which the author does not recall and cannot find a parallel in the medical literature.

In June 1961 at the Whitehorse General Hospital, a stuporously intoxicated Indian woman, who had been almost continuously drunk for the previous two months, delivered an intoxicated, small, but full-term infant who developed typical withdrawal symptoms; these began 12 to 18 hours after birth and were most apparent during the second day of life.

Advice about the management of this patient was sought from members of the Pediatric Department of Charles Camsell Indian Hospital in Edmonton[1] and through them from the teaching and research staff of the Pediatric Department of the University of Alberta Hospital. During our discussions, it was suggested that an account of this case be published, as no cases of the alcohol withdrawal syndrome in newborns were found in the literature during searches carried out in June and October 1961 and again in July 1962. In 1959 an article by Cobrinik, Hood and Chusid[2] on the effect of maternal narcotic addiction on the newborn infant, which contained a fairly complete review of the literature, described the occurrence of a picture very similar to that seen in the infant described in this paper. The same symptomatology was described in 1961 by Dikshit[3] in cases of the narcotic withdrawal syndrome observed in India. The child considered here had not been exposed to narcotics, but had been exposed to alcohol almost constantly during the last two months of gestation.

G.J., a 27-year-old woman, para 5, gravida 6, was admitted to the maternity ward of Whitehorse General Hospital at 6 a.m. on June 1, 1961. She was in an alcoholic stupor and claimed to be in labour. She had never presented herself for any prenatal care, and the size of the uterus did not impress the admitting nurse as being consistent with full-term. The past history obtained from the outpatient department, hospital and public health records, and from the patient after she had sobered up, included: frequent bouts of phlyctenular keratoconjunctivitis in childhood, leading to extensive corneal opacities which finally resulted in near-blindness; frequent treatment for gonorrhea since puberty, and several accidents due to intoxication. She had been admitted for her previous delivery when in an intoxicated state. Several of her five children had to be placed in foster homes by the Welfare Department because of her frequent and prolonged drinking spells. The public health nurse and welfare workers reported that she had been on an almost continuous "binge" for the last two months.

Although the midwife in charge did not believe that the stuporous patient was in true labour, 45 minutes after admission the patient gave birth rather precipitously to a meconium-covered, flabby baby who was dusky and did not cry or breathe for almost five minutes. Nikethamide (Coramine) 0.2 c.c. was injected into the umbilical vein, and almost immediately the infant cried and began to breathe.

This male newborn weighed 4 lb. 15 oz. at birth and measured 17" from crown to soles. His head circumference was 12¼", and chest circumference 11¼". Despite his size, he appeared to be full-term. No excessive lanugo was present, and the fingernails were overriding the tip of finger pulps.

The placenta also showed evidence of maturity, and post-maturity signs were present in the form of white calcifying infarcts. The Wassermann reaction of the cord blood and the mother's blood was negative.

A marked alcoholic fetor was noticeable in the nursery whenever the incubator of this baby was opened during the first 12 hours after birth. This was so marked that several staff members, unaware of the history, sniffed and remarked about it when near this baby's incubator.

During the 18 to 24 hours after the infant's birth, the nurses recorded their first observations of abnormal signs of irritability: "jerky and jumpy", . . . "marked coarse tremor of hands and feet". When the author

*Present address: Charles Camsell Hospital, Edmonton, Alta.

examined the baby a few hours later, he observed that the baby started with jerky movements and gave a shrill high-pitched cry when anyone walked past the incubator, a marked contrast to the other unperturbed babies in the same nursery. The coarse tremor of his hands and jerky movements of mouth and general excitability increased even more toward the evening of the second day of life. The colour became poor; the baby was wearing himself out with tremor, shaking and crying during the "jitters".

The infant was moved into a separate room because he was constantly startled and thrown into "shakes and jitters" whenever the nursing staff moved and worked with other babies or whenever any of the other babies cried. Besides the tremors described, jerky and jumpy movements, general restlessness, sleeplessness, excessive crying and hyperirritability were noted. No gastrointestinal signs and in particular no vomiting or diarrhea were observed.

A Brecht feeder was employed for four days, then breast feeding was resumed. The coarse tremor of the extremities and jerky grimacing gradually decreased during the fourth and fifth day of life. These signs had disappeared by the sixth day, although the baby was still abnormally irritable and easily startled, and gave vent to his peculiarly shrill cry for two more days.

When discharged with the mother on the tenth day, he was nursing well every three hours, taking two ounces per feeding and gaining weight.

When he was two months of age, the baby had to be taken away from the mother, who was again drinking. The baby was in a starved condition but developed satisfactorily thereafter in foster homes.

Frequent physical and neurological follow-up examinations have failed to reveal any abnormalities.

DISCUSSION

The presumptive diagnosis of alcoholic withdrawal syndrome was quite natural in a baby born with signs of intoxication and a history indicating exposure to alcohol for the last two months of intrauterine life. In addition he developed symptoms of nervous irritability in that he was easily startled and had a coarse tremor and the "shakes and jitters" during the 18 to 24 hours after birth.

Although alcoholism is the most prevalent form of addiction, no similar cases could be found in the medical literature available to the author. In retrospect, an opportunity was missed of treating the symptoms of pathological nervous irritation presumed to be due to alcohol withdrawal in a specific manner (e.g. by giving alcohol directly to the infant or indirectly by allowing the nursing mother some alcohol). Conceivably this would have relieved the withdrawal symptoms rapidly and thus have proved the diagnosis in a convincing fashion.

Previously the mortality rate of untreated newborn infants with narcotic withdrawal syndrome was reported to be rather high. However, nine of the 22 cases of Cobrinik *et al.* were mild and did not warrant treatment. The use of chlorpromazine was considered (as in the treatment of delirium tremens in adults), but when the baby improved after being moved to a separate room, this was not initiated.

This present case is comparable, with respect to symptomatology, to the milder to moderately severe cases of heroin and morphine withdrawal in newborns described by Cobrinik *et al.*

It is conceivable that generally alcohol has a much less severe and much shorter effect on the metabolism of the fetal organism than narcotics of the opium alkaloid group. For this reason, despite the general frequency of alcoholism in all groups of our population including pregnant women, severe degrees of alcohol withdrawal syndrome in newborns are rarely, if ever, seen. At any rate, instances of this syndrome have so far escaped description.

SUMMARY

A case history is presented in which a newborn Indian infant developed hyperirritability, characterized by a coarse tremor of the extremities, restlessness, sleeplessness, excessive crying, jerky movements and by being easily startled, 18 to 24 hours after birth. This child, born with signs of alcohol intoxication to an alcoholic mother, is presumed to constitute a hitherto undescribed *alcohol withdrawal syndrome in the newborn.*

This case has been compared with the withdrawal syndrome which has been described in the newborn infants of mothers addicted to narcotics.

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REFERENCES

1. TAYLOR, W. C.: Personal communication.
2. COBRINIK, R. W., HOOD, R. T., JR. AND CHUSID, E.: *Pediatrics,* 24: 288, 1959.
3. DIKSHIT, S. K.: *Indian J. Pediat.,* 28: 11, 1961.

PAGES OUT OF THE PAST: FROM THE JOURNAL OF FIFTY YEARS AGO

The Vancouver Isolation Hospital is almost completed. The hospital is to consist of three buildings—the main building, which is one hundred and ten feet long and thirty-nine feet wide, is placed in the centre; the men's building is on the left of the main building, while the building on the right contains the women's wards. Behind the main building is a level green sward where tents may be pitched, if found necessary, in case of a severe epidemic. Two other smaller buildings are also provided, one for men and one for women, where suspected cases may be kept under observation. The hospital grounds extend over twelve acres, and it is proposed to raise all the vegetables and farm produce for the hospital within its own grounds, and to employ convalescent patients in the gardens.

An arrangement whereby patients may see their friends and still avoid all danger of infection, has been planned. A large plate glass window has been placed in the lodge of the hospital; through this window patients may be seen by their friends, and a short distance telephone is to be installed so that a conversation may be carried on with the person on the other side of the glass. In this way the feeling that one is completely cut off from the world will be lessened, and the friends of the patient will have the satisfaction of both seeing him and speaking to him.—*Canad. Med. Ass. J.,* 2: 952, 1912.