

Children with Ghee Lipoid Pneumonia in Aseer Region, SouthWestern Saudi Arabia

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Abstract

All children attending the Aseer Central Hospital (the only tertiary hospital in Aseer region, southwestern Saudi Arabia) with lobar pneumonia (315 children) during the period from January 1987 to December 1999 were studied. Out of these, forty-five children were found to have ghee lipoid pneumonia (diagnosed by oil red O stain). All of them were given oral and/or nasal administration of ghee for cultural and healing reasons. They included 23 males and 22 females. Their ages ranged from 15 days to 13 years. There was a clustering of cases. Most cases were coming from one place (Dahran Al Janoub) with main catchment population of rural origin. The month of December witnessed the highest number of admissions (18%). The study showed that ghee lipoid pneumonia could be of public health importance due to cultural malpractices. Massive health education and awareness programmes are mandatory to eradicate this condition from the region.

Introduction

The Aseer region (population of 1,200,000) is located in the southwest of Saudi Arabia covering an area of more than 80,000 km². The region extends from the high mountains of Sarawat (with an altitude of 3,200 meters above the sea level) to the Red sea, and lies few kilometers from the northern border of the neighbouring Yemen. Primary health care services delivery in the Aseer region is provided through a widespread network of 238 primary health care centres (PHCCs). Each PHCC has a well-defined catchment's area and population. Secondary care services in the region are provided through a network of 17 hospitals scattered all over the region. Aseer Central Hospital is the only tertiary care hospital in the region.

It is a widely held belief in the Aseer province of Saudi Arabia that infants and children who are forced fed or have nasal administration of ghee seemed to fare better [1]. Ghee eased their coughs and colds, enabled them to have free bowels and on the whole promoted better health [2]. The administration of ghee may result in aspiration of the animal fat causing acute, subacute and chronic complications. The acute stage presenting as ghee lipoid pneumonia while the subacute and chronic stages produced bronchiectasis [3].

The aim of the present work is to study the family and social background of cases with ghee lipoid pneumonia in Aseer region, southwestern Saudi Arabia.

Materials and Methods

All children up to the age of 13 years who were admitted to Aseer Central Hospital, Abha, Saudi Arabia with lobar pneumonia were included in the present work. Proven ghee lipid pneumonia was based on the demonstration of fat by oil red o stain in their bronchoalveolar lavage [4]. The study covered 12 years from January 1987 to December 1999. Data collected included age, sex, parental ages, father's occupation, the area or place where they came from, the number of children per family, the birth order of children with ghee lipid pneumonia, the month and year of admission, right or left lobar pneumonia and length of stay in hospital. Analysis techniques were used at 5% level of significance.

Results

There were 45 children with ghee lipid pneumonia, 23 males and 22 females (51 % and 49% respectively). Their mean age was 38.70 months (range from 15 days to 13 years). The mean father's and mother ages were 32.3 ± 8.2 and 26.02 ± 5.73 years respectively. The paternal occupational distribution showed policeman/soldier as the most frequent 42% followed by manual worker 26.7%. The place or area they came from showed that Dharan Al-Jan-oub as the most frequent with 22%. The birth order of the child as well as the number of children in the family were 3.02 ± 2.22 and 3.58 ± 2.45 respectively. The route of ghee administration was orally in 82% and nasally in 18%. The age at administration of ghee was 2.13 ± 0.84 months. The peak incidence of cases was during December (18%). The peak years of admission were from 1989 to 1993 accounting for 76% of all admissions (Table 1).

Table 1: Summary of some observation in patients with lipid pneumonia

Percentage of cases	45/315 (14.3%)
Sex	51% (Male) 49% (Females)
Residency with high no. of cases	22% (D. Al Janoub) 20% (Abha)
Administration:	82% (Orally) 18% (Nasally)
Mean age	38.7 months
Peak month of incidence	December (18%)
Peak year of admission	1987-1993 (76%)

Discussion

Cultural or traditional practices in different parts of the globe where oils and fats are used continue to produce lipid pneumonia [5-9]. Saudi Arabia did not fare differently and the clinical, radiological, light and ultrastructural microscopic pathological findings in exogenous animal fat (ghee) lipid pneumonia have been reported [10-15].

This study provided detailed data on epidemiology of ghee induced lipid pneumonia in children seen at Aseer Central Hospital, Abha, Saudi Arabia. This is a hospital based study. In the overall, the number of lipid pneumonia was found to be 14.3% (45/315) of children seen at the hospital with lobar pneumonia. The age varied from 15 days to 13 years with a mean of 38 months. The sex incidence was more or less equal. The parental ages in the study showed that the fathers were older than the mothers reflecting the general trend in the community. In the father's occupation there was a high incidence of employment in the security forces i.e. police and the army comprising of 42% (19/45).

Most of the patients came from the Dharan Al-Janoub area of 22% (10/45) followed by Abha of 20% (9/45). The monthly distribution of lipoid pneumonia revealed peak incidence of 17% in December which similarly reflected the highest incidence of lobar pneumonia seen in the winter months from November to March. The peak years of admission were 1989 to 1993 which accounted for 76% of all admissions. This probably reflected the awareness of the disease and its associated high incidence of reporting.

From 1994 to 1999, the presentation of the disease showed a remarkable drop indicating an average of only 1-2 cases per year. The reason for this lower incidence could be secondary to health education mounted on an effort to reduce the morbidity and mortality of the disease including some of the television program which leads to public awareness as well as propagation of the magnitude and seriousness of the disease in the community.

In conclusion, ghee lipoid pneumonia has been shown to be an important cause of pneumonia in the 45 children. The various epidemiological factors have been shown to contribute in no small measure to the effects of ghee lipoid pneumonia. Health education has been shown to be relevant in reducing the incidence of ghee lipoid pneumonia.

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