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PREVALENCE OF CONGENITAL HYPOTHYROIDISM AT HOSPITAL TENGKU AMPUAN AFZAN, KUANTAN.

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ABSTRACT

PREVALENCE OF CONGENITAL HYPOTHYROIDISM AT HOSPITAL TENGKU AMPUAN AFZAN, KUANTAN.

The aim of the present study was to estimate the birth prevalence of congenital hypothyroidism and to identify the numbers of congenital hypothyroidism cases among 50-100 randomly patients at Hospital Tengku Ampuan Afzan, Kuantan. Congenital hypothyroidism is one of the most common birth defects that occur in approximately 1:2000 to 1:4000 newborns. The common symptoms for congenital hypothyroidism include decreased activity and increased sleep, feeding difficulty, constipation and prolonged jaundice. This study is a - cross sectional study. The data was observed and recorded of screening and confirmatory results of congenital hypothyroidism at Hospital Tengku Ampuan Afzan, Kuantan. This study will involves 100 randomly newborn babies in Hospital Tengku Ampuan Afzan, Kuantan (HTAA) that through a screening for congenital hypothyroidism. A total 100 randomly patients that screening for congenital hypothyroidism results will be analyse. The inclusion criteria in this study are newborn baby within 1st until 3rd day, abnormal screening test recorded in Chemical Pathology Laboratory. The exclusion criteria is normal results of screening test recorded in Chemical Pathology Laboratory. Congenital hypothyroidism is classified into permanent and transient form. The diagnosis confirmed by finding an elevated serum TSH (>21 uIU/mL) and low T4 level (<15 uIU/mL). From the results, there were two newborn babies identified with congenital hypothyroidism. The other 14 newborn babies were at borderline and after treatment their result showed they were not associated with congenital hypothyroidism. 84 newborn babies showed they were normal. To prevent from mental retardation and other side effects, babies with congenital hypothyroidism need to give the treatment as soon as possible. One of the ways to treat is by given thyroxine. Screening for congenital hypothyroidism should be done to each of newborn babies for early detection and avoid delayed treatment.

Key words : Newborn screening, Congenital hypothyroidism, Cord blood

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CHAPTER 1
INTRODUCTION

1.1 Background of the study

With the changing priorities in health care, the improvement in economy and lifestyle will lead to preventive issues that includes national screening programs. Newborn screening for congenital hypothyroidism were commenced by Ministry of Health (MOH) in October 1998 (Fuziah, 2010). National screening programme will lead to detect any diseases at very early stage the treatment to be started as soon as possible before any side effects occur at the future *("Review of the National Newborn Screening Programme for Inherited Metabolic Disorders, 2004")*. Newborn screening data that was published in New York and the United States showed the birth prevalence rates of primary congenital hypothyroidism over the past 2 decades was increased with New York: 1 in 3378 to 1 in 1414 birth and United States: 1 in 4098 to 1 in 2370 births (Harris & Pass, 2007). Congenital hypothyroidism (CH) is difficult to diagnose at birth due to the newborns lack the typical clinical features in the first few weeks of their life.

Congenital hypothyroidism is due to the deficiency of thyroid hormone that present at birth. Neonatal screening studies will be proceeded to diagnose the disease. To detect congenital hypothyroidism, the screening test should be done to determine if infants has hypothyroidism and to initiate early treatment to prevent mental retardation (Murray, 2009). The screening methods practiced are primary Thyroid Stimulating Hormone (TSH) screening and screening for low Thyroxine (T4) level. The indicator for congenital hypothyroidism is low of Thyroxine (T4) level that is <15 nmol/L and elevated of Thyroid Stimulating Hormone (TSH) that is >21 μU/mL (Kilpack, 2009). Blood is taken from the heel on day 5 of life or from the umbilical cord at birth. The samples from cord blood have much higher coverage of infants, can be done with established newborn cord blood screening programmes for glucose 6 phosphate dehydrogenase (G6PD) deficiency (Joseph, 2009). Cord blood sampling is simple, non-invasive, and offer earliest postnatal diagnosis. The latter is being practiced in Malaysia as babies are discharged soon after delivery. Physical growth, IQ level, mental and motor development of infants with CH usually are normalised with early levo-thyroxine therapy.