SUDDEN NATURAL DEATH IN INFANCY AND EARLY CHILDHOOD -
AN ANALYSIS OF AETIOLOGICAL MECHANISMS AND
PATHOLOGICAL FEATURES

VOLUME 1

THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF MEDICINE,
UNIVERSITY OF ADELAIDE

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Submission Date: 31st December, 1993
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ABSTRACT

This thesis provides a detailed description of possible aetiological mechanisms in sudden infant death syndrome and reports original work investigating a variety of causal mechanisms and pathological markers. Specific areas investigated include bone growth, type of feeding, role of gastro-esophageal reflux and role of microbiological agents in SIDS infants. Investigation of possible pathological markers of SIDS includes an analysis of numbers of thymic petechiae and of the presence or absence of pulmonary interstitial haemosiderin-laden macrophages. As well, a classification of all other types of sudden natural death in infancy and early childhood is provided with an examination of clinicopathological features of individual cases and series.
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VOLUME 2

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INTRODUCTION

Sudden death is a well recognized sequel to infections with a wide variety of agents. The outcome of a particular infection depends on the age of the infant or child, the virulence of the organism and the immunological status of the host. For example, certain bacteria, such as *Neisseria meningitidis*, are capable of producing a fulminant septicaemia in previously healthy children with death within hours, whereas *Aspergillus sp.* is generally only of concern in children who are immunodeficient.

In spite of the possibility of a lethal outcome from many 'rare' organisms in immunocompromised hosts, this chapter tends to concentrate on more usual clinical syndromes, with only occasional reference to more obscure entities. The format reflects the sequence followed in other chapters with a discussion of infections based on particular organ systems or mechanisms rather than on specific classes of infectious agents.

In a review performed by the author of autopsy cases from the Adelaide Children's Hospital over the past 30 years the most common causes of rapid death were bacterial pneumonias, airway infections (including acute epiglottitis), meningitis, septicaemias, viral myocarditis and gastroenteritis. Table 4-1 lists possible microbiological causes of sudden death in childhood and Appendix I, Chapter 11, summarizes the types of microbiological specimens that can be taken in the workup of a septic case at autopsy.