INTRODUCTION

The rapid industrialization and use of metals for a variety of purposes have led to the release of significant quantities of metals in our environment. Some of the metals with well recognised toxicity have been detected in air, water and soil in quantities higher than the permissible limits. Thus, besides the industrial workers, general public, animals, our flora and fauna are also being exposed to toxic metals. Metals are useful and the progress of a country is very much dependent on them. Thus, exposure to metals is likely to continue.

Several metals have been found to cause severe crippling diseases and ultimately death. There are at least twenty metals or metal-like elements which have been found to give rise to well recognised toxic effects on man and environment. Overall, fourteen elements are recognised as essential trace metals for animals. Nickel was the last essential trace element discovered in 1974. The nutritional essentiality of nickel has recently been revealed (Schnegg and Kirchgessner, 1975a,b, 1976a,b and Kirchgessner and Schnegg, 1976).

Every metal is toxic when given in high dose to animals. Nickel, like certain other metals, has the potential
to cause adverse effects in humans and animals. A proper understanding of the chemical interactions of nickel within the biological system is, therefore, essential both in the understanding of the mechanism of its toxicity and in the search for a suitable therapy.

A number of reports are available in the literature in forms of the removal of nickel from biological system by chelating agents. Different chelating agents with structural variations have also been investigated for their efficacy to mobilize nickel both in animal experiments and in human cases of nickel poisoning. Most promising approach for the treatment of nickel intoxication must be the selective removal and release of the metal from the functional bio-ligands by specific chelating agents before irreversible damage has occurred.

A review of literature regarding the present knowledge on nickel intoxication and its therapeutic aspects is presented herewith.