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Upper Respiratory Infections

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Infections of the upper respiratory system are by far the most common cause of illness in infancy and childhood, accounting for approximately 50 percent of all illness in children younger than five years of age, and 30 percent in children between the ages of five and 12 years.¹ Young children normally have four or five such illnesses each year.²

Patients with manifestations of upper respiratory infection, especially those in the pediatric age group, frequently present to chiropractic clinics. Case reports frequently describe rapid improvement in upper respiratory symptoms following adjustment of minor vertebral subluxations, especially in the cervical spine. In this issue, we examine one possible anatomical and physiological mechanism for the etiology and preponderance of the group of conditions generally called upper respiratory infection.

Upper respiratory infection is a general description of a group of conditions which includes common cold, purulent rhinitis, pharyngitis (tonsillitis), otitis media (earache), sinusitis, influenza, and bronchitis.

Hypothesis

If it is that vertebral subluxations are part, either of the etiology or of the pathophysiology of the upper respiratory infectious process, how then does correcting the spine help? To answer this question, we must draw on the anatomical model of vertebral subluxation as a cause of irritation of the nervous system which responds by producing paraspinal muscle spasm. The body requires an efficient lymphatic drainage system to rapidly clear foreign antigenic material from the respiratory system, and to dispose of proliferating bacterial and viral pathogens. Within the lymphatic system, the process of phagocytosis takes place. Phagocytosis is a necessary part of the immune system, which is responsible for identifying invading bacteria and viruses, neutralizing their effects and disposing of the waste products through the lymph system. Any mechanism which would block or impede normal lymphatic drainage would therefore predispose an infected patient to retain the products of such an infection in the upper respiratory passages.

Each of the upper respiratory conditions previously listed have a similarity in their etiology, being that each would appear to involve an inadequacy in the lymphatic drainage from the head and neck. Examination of the cervical lymphatics, using CT scan, has been used to show the presence of developing infectious processes within the lymph nodes, which on subsequent aspiration were shown to include liquid pus and semi-solids.

Palpation of the cervical lymphatic chain, along either side of the neck, will frequently exhibit prominent lymph nodes in children. The normal route for lymphatic drainage from the head and neck is via the cervical lymphatics: anterior (under the angle of the jaw and in front of the sternocleidomastoid muscle). All the drainage from this system passes deep to and alongside the cervical musculature, under the clavicle, through the infra-clavicular lymph nodes, and then eventually into the blood stream flowing toward the heart.

The mechanism by which lymph is cleared through the body is known as the "lymphatic pump." This mechanism is activated by compression of the lymphatic vessels, by muscular contraction, by passive body movements, by arterial pulsation and by external compression of body tissues. One of the major factors therefore controlling lymph flow is the degree of motion of the tissues. The greater the motion, the greater will be the rate of lymph flow. Conversely, lack of motion of these tissues and muscles would impede or make it extremely difficult for lymph to flow along the lymph ducts.

Vertebral subluxations, particularly in the cervical spine, which produce associated muscle spasm, could therefore be the cause of stasis or restriction of the lymphatic drainage from the head and neck. As a consequence, the body would be unable to clear bacteria and viral pathogens to which it is constantly exposed through the mouth and respiratory passages. As a result, the patient with either transitory or chronic cervical subluxations would be more likely to suffer from on-going upper respiratory infection rather than being able to clear the infection through the normal processes of phagocytosis and lymph drainage.

Scientific studies of patients with chronic otitis media have been reported in the literature showing significant evidence of reduced lymph drainage from the eustachian tube. Pulek and Horwitz (1973) proposed obstruction of the eustachian tube lymphatics as being the mechanism for the production of serous otitis media.³ Two early studies by Robison proposed that the pathogenesis of serous otitis media was due to lymphatic obstruction of the nasopharynx.

The mechanism presented here is a hypothetical one. Chiropractors have been treating children for most of the 100 years since D.D. Palmer adjusted his first patient's spine. The relief through chiropractic spinal adjustments, which has been afforded to many children who have been suffering with chronic upper respiratory infections, earaches, and sore throats has finally prompted some serious research. The Foundation for Chiropractic Education and Research (FCER) has commissioned a large scale project to evaluate the consistency of the results which spinal adjustments may achieve for children with earache. We look forward to the results of this study which may bring new hope for children whose earaches just do not respond to antibiotics.

References

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