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ORGANIZATION OF THERAPEUTIC AND PREVENTIVE MEASURES TO PREDICT THE DEVELOPMENT OF SECONDARY IMMUNODEFICIENCY IN VIRAL INFECTIONS IN YOUNG ATHLETES

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Abstract

The emergence of immunopathological reactivity in the course of evolution served as a response to all the increasing risk of infection of the body, the development of mutated cells in it, the appearance of substances having alien antigenic and genetic information. Mechanisms of immunity were a common form of defense against these forms of biological aggression, tk. with their help proteins are removed from the body that have been altered in the course of vital activity or under the influence of pathogenic factors, i.e. the purpose of immunity is to maintain antigenic and genetic homeostasis and to ensure biological identity of the organism. Under the action of extreme stimuli, it is possible damage to various components of the immune system (immunobiological surveillance systems - IBN), which is accompanied by the development of diseases, conditions, processes associated with immunopathology. The present period of development of society is characterized by an increase in their number, which makes the study of this problem relevant and necessary.

Keywords: immunobiological system, condition, exteme, stimuli, society, component, possible.

INTRODUCTION

Many athletes experience sudden and unexplained deterioration in performance in training or competition. This is often attributed to overtraining or psychological factors, but a medical illness may cause a temporary loss of form in a previously fit athlete. In the past year I have seen 12 athletes complaining of loss of form with no features suggesting an underlying medical cause. No medical abnormality was found in eight of them, though four were undergoing the stress of academic examinations. The four others showed evidence of a recent viral infection and are reported on here. Case 1-A 15 year old middle distance runner complained of loss of stamina and inability to manage his normal training schedule. His competition performance had also deteriorated.

The problem had been preceded by a mild infection of the upper respiratory tract and a sore throat not serious enough for him to have consulted a doctor. Examination showed several small supraclavicular lymph nodes. Atypical mononuclear cells were visible in a blood film, and a screening test for infectious mononucleosis (Monospot) gave positive results. Training was temporarily reduced, and he had regained his form after four months. Case 2-An 18 year old cross country runner complained of two months of malaise, tiredness, and difficulty in training. She had not had any upper respiratory tract symptoms.

Examination gave normal results. Estimation of viral titres showed a considerable increase in Coxsackie B2 (1/512), indicating recent infection. After a short recovery period she regained her form over three months. Case 3-An 18 year old cross country runner presented with loss of stamina, being unable to maintain his former training schedule. He had had no recent symptoms of the upper respiratory tract. Physical examination gave negative results, but he had a raised aspartate transaminase activity of 57 IU/l (normal range 12-42), which suggested mild hepatitis. A Monospot test gave positive results, indicating recent infectious mononucleosis. Six months later he was still complaining of tiredness and aching legs and had not been able to repeat previous performances.

Case 4-A 20 year old intemational sprinter had had an infection of the upper respiratory tract two months previously. She had subsequently felt weak and dizzy during training and had been unable to maintain her former training capacity. Examination gave negative results. Measurement of viral titres showed a pronounced increase in Coxsackie B3 (1/256), indicating recent infection. Her loss of form persisted throughout the track season. Two of these highly trained athletes had had no prodromal symptoms, and two had had minor symptoms of the upper respiratory tract.

Materials and methods

All had evidence of recent viral infections as shown by increased titres of antibodies against Coxsackie B or Epstein-Barr virus, and one had morphologically abnormal white blood cells suggesting recent viral infection.' Viral infections are blamed for many minor illnesses. They may be subclinical and may give rise to symptoms beyond the acute infective phase. This post-viral syndrome produces various physical abnormalities, including excessive intracellular acidosis of skeletal muscles and persisting abnormal function of T cells.2 3 Pether described two cases of bacterial meningitis in sportsmen who took part in sporting activities within a week of symptoms suggesting influenza; one of the patients died.' Sutton et al described a 42 year old patient who died from heart failure after swimming.

Coxsackie virus B4 was isolated from damaged myocardial tissue.5 Inquiry about recent minor illness should be standard practice in athletes with unexplained loss of form. It may also be worth considering a viral cause, as infections that are subclinical in the normal population may greatly affect maximum performance in athletes. Athletes with such infections might be tempted to increase their training load when a temporary reduction would be more appropriate. 1 Sprunt TP, Evans FA. Mononuclear leukocytosis in reaction to acute infection. Johns Hopkins Hospital Bulletin 1920;31:410-7. 2 Arnold DL, Boe PJ, Radda GK, Styles P, Taylor DJ. Excessive intracellular acidosis of skeletal muscle in a patient with post viral exhaustion/fatigue syndrome. Lancet 1984;i:1367-9. 3 Hamblin TJ, Hussain J, Akbar AN, Tang YC, Smith JL, Jones DB. Immunological reason for chronic ill health after infectious mononucleosis. Br Med J 1983;287 :85-8. 4 Pether JVS. Bacterial meningitis after influenza. Lancet 1982;i:804. 5 Sutton GC, Harding HB, Trueheart RP, Clark HP. Coxsackie B4 myocarditis in an adult: successful isolation of virus from ventricular myocardium. Aerospace Med 1967;38:66-9. (Accepted 7 November 1984) Department of Respiratory Medicine, Western Infirmary, Glasgow Gll 6NT J A ROBERTS, Bsc, MRCP, medical registrar and medical adviser to the

Scottish Amateur Athletic Association Tamoxifen as primary treatment of breast cancer in elderly or frail patients: a practical management Tamoxifen is the most widely used agent in hormonal treatment of advanced breast cancer.

It may have a role as primary treatment for elderly or frail patients who are unfit for surgery or primary radiotherapy. Patients, methods, and results In 1977 we started using tamoxifen (10 mg thrice daily) instead of surgery as primary treatment for elderly or frail patients with histologically confirmed breast cancer. Thirty eight of the patients studied had other major systemic disorders (for example, vascular disease, arthrepathy, and dementia). After biopsy staging was confined to full blood count, tests of liver function, and chest and pelvic radiology. Two dimensional measurements of the tumours were assessed using criteria of the International Union Against Cancer' as indicating partial response, complete response, no change, or progressive disease.

The table shows the response and how this was influenced by the oestrogen receptor state and size of the tumour. Tumour was localised to the breast and ailla in 89 patients. Of 68 patients with objective regression of tumour, 39 had complete resolution. Median time to achieve best response was 15-5 weeks (range 6-135). Median duration of tamoxifen treatment was 23 months in patients with a complete response (range 5-48), 18 months in patients with a partial response (range 6-55), and 15 months in the group showing no change. Two patients with a complete response and 10 with a partial response subsequently relapsed, giving a median duration of response of 19 months (mean 24 months, range 9-55); four received breast irradiation, two were given aminoglutethimide, and six did not receive any further treatment. In 10 patients the disease progressed during treatment. Oestrogen receptor state was determined in 37 patients, 35 of whom had concentrations >20 fmol/mg cytosolic protein-that is, were rich in receptor. The proportion of these patients who responded (74%) was similar to the proportion overall. The median oestrogen receptor concentration was 300 fmol/mg cytosolic protein.

Patients with locally advanced (T4) disease responded less well. Side effects to tamoxifen occurred in 33 patients: dry mouth (13 patients), fatigue (10), transient nausea (10), vomiting (four), vaginal dysaesthesia (two), and vaginal discharge (two). One patient stopped treatment because of persistent nausea. Fourteen deaths occurred: six due to vascular disease in responders, and three due to vascular disease and five to disseminated carcinoma in non-responders. Comment Elderly patients with breast cancer can create problems in management when primary surgery or radiotherapy is considered to be inappropriate.

Result and discussion

Results of using tamoxifen as primary treatment have been encouraging in terms of response rates and possibly survival.2 3 The response rate in this study (68%) compares well with that in previous reports. The similar response in patients rich in oestrogen receptor and those whose receptor state was unknown suggests that such tumours in the elderly should be regarded as rich in oestrogen receptors. We emphasise the slow time to response (median 15-5 weeks). The actuarial survival of our patients at five years was 52% compared with 42% (not significant) in a historical control group of elderly women treated by surgery or irradiation. Only five of the 14 deaths were due to carcinoma, and these were among non-responders. Tamoxifen was well tolerated by the patients: only one third experienced side effects, which were generally transient. We believe that tamoxifen is an excellent and appropriate primary treatment for elderly women with breast cancer.

Paediatric respiratory tract infections are one of the most common reasons for physician visits and hospitalisation, and are associated with significant morbidity and mortality. Respiratory infections are common and frequent diseases and present one of the major complaints in children and adolescents. The role of physicians and other healthcare providers has

expanded from merely treating disease to implementing measures aimed at health maintenance and disease prevention (Bellanti, 1997). Respiratory infections (RI), mainly involving the upper airways, are common in children and their recurrence constitutes a demanding challenge for the paediatricians.

There are many children suffering from so-called recurrent respiratory infections (RRI). The child with recurrent respiratory infections presents a difficult diagnostic challenge. It is necessary to discriminate between those with simply-managed cause for their symptoms such as recurrent viral infections or asthma, from the children with more serious underlying pathology such as bronchiectasis or immune dysfunction.

Many different disorders present this way, including cystic fibrosis, various immunodeficiency syndromes, congenital anomalies of respiratory tract, but in some children lung damage could follow a single severe pneumonia or can be the consequence of the inhalation of food or foreign body (Couriel, 2002). According to the epidemiological studies it was estimated that around 6% of the children younger than 6 years of age present RRI. In developed countries, up to 25% of children aged < 1 year and 18% of children aged 1-4 years experience RRI (Bellanti, 1997). Moreover, ENT infections represent the most frequent pathologies in children aged from 6 months to 6 years.

Although the etiologic agents responsible for RRI are not always readily identifiable, viral agents are typically the main cause. The real task for the paediatricians is to discriminate the normal children with high respiratory infections frequency related to an augmented exposure to environmental risk factors from the children affected by other underlying pathological conditions (immunological or not), predisposing to infectious respiratory diseases (de Martino & Ballotti, 1981). Usually, the children with RRI are not affected by severe alterations and RRI represent essentially the consequence of an increased exposure to infectious agents due to environmental factors during the first years of life (Arden et al., 2006).

In the clinical practice, most of the children suffer from the recurrent infections of the upper airways, but in approximately 10-30%, the lower tract is also affected. There are two peaks of the incidence of RRI (Couriel, 2002):

6-12 months of age → after consumption of the maternal passively transferred immunoglobulins with concomitant postponed synthesis of own antibodies,

the involvement of the child in to the group of children at nursery or school.

Upper respiratory infections are common but are unlikely to indicate an underlying medical condition when they occur in isolation (Wood, 2009). When evaluating the patients with recurrent infections, it is reasonable to use acronym SPUR (severe, persistent, unusual, recurrent) to prompt appropriate investigations for underlying causes. Children with RRI have the course of the airway infections (feature, severity and duration) similar to those presented by children with “normal” incidence of respiratory infections.

The frequency of RI in children with RRI shows typical seasonality with the highest rate during autumn and winter (Arden et al., 2006). Typically, these children are not affected by the recurrent infections of the other systems (gastrointestinal tract, central nervous system, uro-genital tract or skin). While most children with recurrent infection have a normal immunity, it is important to recognize the child with an underlying primary immunodeficiency and investigate and treat appropriately and not over-investigate normal children (Slatter & Gennery, 2008).

RRI are a common problem mainly in preschool age, usually due to the presence of unfavourable environmental conditions, including early socialization, as well as the immaturity and inexperience of the immune system (Dellepiante et al., 2009). In infancy and early childhood the immune system encounters antigens for the first time, mounting immune responses and acquiring memory.

Young children mix with other children in families or nursery and are exposed to many pathogens and therefore there are more vulnerable to infection and recurrent infections are common (Slatter & Gennery, 2008).

Conclusion

Many of the children are simply having the repeated viral upper respiratory tract infections that are a normal part of growing up. In others, the symptoms are the first manifestations of asthma. If there is a history of persistent or recurrent pneumonia with or without chronic sputum production, it is indicating more severe pathology (Couriel, 2002). RRI initially occur as a viral respiratory tract infection, but bacterial growth is demonstrated in 60% of patients with symptoms of an upper respiratory tract infection of at least 10 days duration (Kowalska et al., 2003; Salami et al., 2008). The children with prolonged or recurrent respiratory illnesses most often have a series of infections rather than persistent infection with one virus strain (Jartti et al., 2008). Some children experience considerable morbidity as a result of RRI and receive repeated courses of antibacterials that are not effective against viral infectious agents and can increase bacterial resistance (Bousquet & Fiocchi, 2006).

Reference

[1] Adams E. L. Rice P. J. Graves B. Ensley H. E. Yu H. Brown G. D. Gordon S. Monteiro M. A. Papp-Szabo E. Lowman D. W. Power T. D. Wempe M. F. Williams D. L. 2008 Differential high affinity interaction of Dectin-1 with natural or synthetic glucans is dependent upon primary structure and is influenced by polymer chain length and side chain branching. The Journal of Pharmacology and Experimental Therapeutics, 325 1 (April 2008), 115 123 .

[2] Aggarwal R. Sentz J. Miller M. A. 2007 Role of zinc administration in prevention of childhood diarrhea and respiratory illnesses: a meta-analysis. Pediatrics, 119 6 (June, 2007), 1120 1130 .

[3] Akramiene D. Kondrotas A. Didziapetriene J. Kevelaitis E. 2007 Effects of β-glucans on the immune system. Medicina (Kaunas), 43 8 597 606 .

[4] Alyanakian M. A. Grela F. Aumeunier A. Chiavaroli C. Gouarin C. Bardel E. Normier G. Chatenoud L. Thieblemont N. Bach J. F. 2006 Transforming growth factor-{beta} and natural killer T-cells are involved in the protective effect of a bacterial extract on type 1 diabetes. Diabetes, 55 1 (January, 2006), 179 185 .

[5] Ambrogi F. Petrini M. Caracciolo F. Azzara A. Carulli G. 1983 Effect of thymostimulin on human lymphocytes adenosine deaminase and purine nucleotide phosphorylase activities: physiological and therapeutic effects. Advances in Experimental Medicine and Biology, 166 101 104 .

[6] Antilla R. Grohn P. Krohn K. 1977 Transfer factor and cellular response in urinary infections in children. Acta Paediatrics Scandinavica, 66 2 (March 1977), 219 224 .

[7] Arden K. E. Mc Erlean P. Nissen M. D. Sloots T. P. Mackay I. M. 2006 Frequent detection of human rhinoviruses, paramyxoviruses, coronaviruses and bocavirus during acute respiratory tract infections. Journal of Medical Virology, 78 9 (September 2006), 1232 1240 .

[8] Virology 2009 Jun; 83(11): 5296–5308.Published online 2009 Mar 18. doi: 10.1128/JVI.00151-09

[9] L. W. Enquist* and for the Editors of the Journal of Virology

[10] www.healthylife.com

[11] www.virology.com