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FATAL STRONGYLOIDIASIS FOLLOWING MASSIVE CORTICOSTEROID THERAPY.

M. MEHDI HAFIZI, MD,** SADEGH SAMOORIAN,MD**

Three types of fatal strongyloides stercoralis infections were found in the patients who had received massive corticosteroid therapy for a long period of time, the importance of ruling out strongyloides prior to administeration of massive corticosteroid for any reason are discussed.

We present three cases of fatal disseminated strongyloides stercoralis after administration of massive corticosteroid for the treatment of Pemphigus Vulgaries.This is the first time that these reports are being published in Iran.

In this article we have studied the clinical features, laboratory and autopsy findings of these cases,also we have reviewed literatures.

Strongyloides was first reported by Normand in 1876. He examined autopsy sections from cases of Chochin-China diarrhea and found that the worms in the crypts of the

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** Sina University Hospital, Surgical and Pathological Department.

intestinal gland, caused enough damage to percipitate a fatal episode of diarrhea. (1). Since then many cases and articles including the methods of diagnosis(2),effects of some factors to break down the cordination between - parasite and host(3), manifestations of strongyloides stercoralis after impairement of immunologic responses due to immunosuppressive, steroid therapy in malignant lymphoma(4,5) and Hodgkin's disease(6), depressed cell-mediated immunity(7), and after chemotherapy for acute lymphoma have been published (8,9). There is also reports of cerebral involvement (10) and diffuse pulmonary infection, due to strongyloides stercoralis.(11).

Recently (1984) there are some reports that shows the incidence of T-cell leukaemia in the patients with St. Stercoralis is more than the others (12). Also there is a report of fatal St. Stercoralis in acute lymphoblastic leukaemia (13).

CASE REPORTS:

Case 1: A 50-years old man from Karadj(near Tehran) was admitted in the department of Dermatology in March 1980, because of bulous dermatic lesions. The bullaes were in the region of his neck, trunk, around the mouth, umblicus and anus. The bullaes ruptured and were covered by crusts with no tendency to heal. The lesions were started 15 days before admition, CBC was normal with 2% Eosinophylia, Biopsy of lesions showed Pemphiagus Vulgaries. The patient was treated with high dose corticosteroid (Diadreson F.from 6, 10 to 24 Tablets daily), after 36 days he complained of abdominal pain, vomiting & constipation and was reffered to the Surgical Department(Sina Hospital). The blood pressure was 140/80 T=37.2, PR=90/

min.

On the physical examination the abdomen was soft and there was neck rigidity. The result of L.P. was as follow: Protein=600 mg%, W.B.C.=8-10, R.B.C.=3-4,Suger 127 and blood suger at the same time was 300mg%.

Treatment started with corticosteroid,Electerolyte management, Antibiotics, but the patient died the next day.

AUTOPSY FINDINGS:

Sections from the G.I tract and pancreas contained numerous adult strongyloides stercoralis. There were some infarcted arease in the lungs and brain edoma.

Autopsy diagnosis: Disseminated strongyloides stercolaris.

Case 2-A, 23-years old man from LAHIDJAN(North of Iran), was admitted in the departement of dermatology in January 1979. His complains was appearence of bullae in his trunk, buttock, head and face. These bulous lesions were started two years before admition. Biopsy of bullae showed Pamphigus Vulgaris. He was treated for a months with high dose of corticosteroid (12-20 tablets of diadreson F), after which he developed abdominal pain and distension and was reffered to Surgical departments,for treatment of partial obstruction.

Pulse 120/min, BP. 100/75, Temperature 37.3.

WBC=12000, N=70% Eos=4% Hb-11gr%

Hct = 33% Blood Suger=90 mg%, Urea=45mg%

His condition worsened gradually: Blood pressure fell to 70/30cg. and pulse rate was 145/min., abdomen was soft but there was no bowel sound. The patient was treated for paralytic ileus, but he died the next day.

Autopsy finding:.In gross, there was no pathologic finding in the abdominal viscus, microscopyic sections showed massive strongyloides infection of the most abdominal visera, the cause of the death was disseminated St. stercoralis.

Case 3-A45 year old woman From Karadj(near Tehran), House Keeper was admitted to the hospital because of her skin lesions. She was saffering of boulous lesion in her skin from 3 years before admition. But from 3-4 month before admition her lesion has been sever and worse. Her trouble has started with bullae around the head,forehead and face. She had 18% eosinaphylia and positive Tzanck test. Biopsy of the lesions showed Pemphigus Vulgaris. She was treated with high dose of corticosteroid for 37 days (20-30 Tablets of Prednisolon per day) when she developed biliary vomitus, abdominal distention and was refered to surgical departement. On physical examination paralytic ileus was diagnosed and treated conservatively, but she expired after two days.

Autopsy finding: There was no macroscopical pathology finding. But sections from GI tracts showed multiple erosion and numerous St.Stercoralis, surrounded by lymphocytes and plasma cell. Also the sections of pancrease,heart, lungs, wall of gall bladder, uterus, parotid gland and lymph nodes showed involvement by St. stercoralis.The cases of death was disseminated St.stercoralis with GI erosion and infection.

DISCUSSION:

Strongyloides stercoralis infection is asymptomatic in approximately 50% of the cases. The parasite is endemic in tropical and subtropical area. The host can carry

the parasite for long periods after leaving an endemic area. Why hyperinfection occurs in certain hosts is not clear. Inadequacy of the immune system appears to be a important factor.

Disseminated strongyloides stercoralis has occured in cases of malnutrition, lymphoma and tuberculosis,with or without immuno supperssive therapy and in leukaemia, nephrosis, asthma, and eczema with immunosuppressive therapy. It has been reported during immunosuppression for nenal allograft rejection and in accidental total body irradiation, in chronic renal failure and in burns. These disease entities have in common an inpairement of cell-mediated immune response. In the severe form of strongyloidiasis death occure in lamost all cases.High mortality is due to some complications such as dehydration, electrolyte imbalance. Paralytic ileas,can complicate the diagnosis of the disease, its cause is not well understood, but massive invasion of intestinal walls by the larvae found in the reported cases, suggests the combination of inflamatory reaction to the larval migration plus possibly the effects of toxine released by the parasites. In some cases a peritoneal inflammatory reaction occures. Respiratory infection, peritonities and gramnegative sepsis, with or without meningities are also complication of the most advanced phase of the parasite illness(13,14).

In our cases, after corticosteroid therapy for treatment of their dermatic lession(Pemphigus Vulgaris)sever gastro-Intestinal symptoms(Paralytic ileus) was developed, this complication was due to disseminated strongyloides stercoralis that was found at autopsy.

In patients with asymtomatic stonsyloidiasis such as our cases overwhelming infection have been known to occur as a result of exacerbation of the disease by the mechanism of endoauto infection that filariform larvae develop from the rhabditoid larvae in intestine, penetrate the small or large intestinal mucasa, enter the intestinal capillaries, invade the liver and migrates the lungs.(15).

In case 3, St. stercoralis was found in pancreas, heart, lungs, wall of gallbladder, tube of uterus,parotid gland and lymph nodes. The larvae in the lungs may develop further and cause pulmonary infiltrates. Corticosteroid therapy, leading to the decrease of inflamatory and immunologic response, may play an important role in the sudden exacerbation of strongyloides.

Eosinophilia remains one of the most important parameters in arousing suspicion of strongyloidiasis, but when corticotherapy is begun the eosinophilia is lost (14). In case 3, even after corticotherapy eosinophilia was high (18%), before adminstration of steroid increasing of eosinophilia indicates the probability of the presents of St. stercoralis. But in disseminated strongyloidiasis, eosinophilia may be low.

It is important that clinicians be aware the asymptomatic strongyloidiasis in some condition can disseminate, because the parasite can exist as an asymptomatic infection for long time and after corticotherapy or immunosuppressive therapy become symptomatic.

Purtilo and associated have shown the role of cell mediated immunity with a post mortem review of 32 cases who had fatal strongyloidiasis(9).

All patients who live or have lived in an area where

strongyloidiasis is endemic should be evaluated for strongyloides infection by intubation of the upper jejunum or repeated stool examination before and during corticosteroid or immunosuppressive therapy, in view of the high mortality with hyperinfection of parasite as in our cases. When the St. stercoralis is present, first of all anthemintic therapy should be used. The treatment with Cambendzaole has been shown to be highly effective, is given as single dose of 5mg/kg body weight(14).

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