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Editorial Open Access

Treatment of Neurocysticercosis

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Editorial

Neurocysticercosis (NCC) is defined as infection of human central nervous system caused by Taenia solium in its larval stage. The total of all people suffering from NCC, including symptomatic and asymptomatic cases, would be estimated somewhere between 2.56-8.30 million [1], based on the range of epilepsy prevalence data available, which is between 4-13/1000 for sub-Saharan Africa [2,3], and the contribution of NCC to epilepsy in approximately 30% of cases [4]. This is frequent in Latin America, Africa, and Asia, where it is considered as a poverty indicator and serious public health problem [5,6]. In 70-90% of patients with neurocysticercosis, the most common presentation is seizures; other manifestations are headache, hemiparesis, arachnoiditis and meningoencephalitis, depending on number, type, size, stage and location [7-10].

Management includes symptomatic treatment and eradication of parasite [11]. The goals of pharmacotherapy for neurocysticercosis are to reduce morbidity, prevent complications, and eradicate the infestation.

In the last 25 years, generating or favoring reduction of the number or volume of cystic and granulomatous lesions, has been attributed to cysticidal drugs (praziquantel and albendazole) frequently along with corticosteroids. The administration of cysticidal drugs may elicit or increase pre-existing cerebral oedema and therefore is contraindicated in cases with increased intracranial pressure, subarachnoid NCC in close proximity to blood vessels and NCC encephalitis [12]. In these conditions, steroids should be administered alone and later may be combined with anthelmintics drugs. In intraparenchymal active NCC without signs of increased intracranial pressure, steroids should be administered simultaneously with anthelmintic treatment, at least for the first week [13,1].

If the parasite is dead, then give symptomatic treatment (eg, antiepileptic drug for management of seizures).

Guidelines issued in April 2013 by the American Academy of Neurology recommend use of albendazole plus either dexamethasone or prednisolone should be considered for adults and children with parenchymal neurocysticercosis, both to decrease the number of active lesions on brain imaging studies (Level B) and to reduce long-term seizure frequency (Level B)[14].

Two most common cysticidal drugs used for treatment of Cysticercosis are Praziquental (PZQ) and Albendazole (ALB).

Praziquental: The most effective regimen applies 50mg/kg in three divided doses over two weeks to 30 days. Even with normal dosage and course of treatment cure rates with anthelmintic drugs in general seem to be low. In untreated patients, 40% of cysts are cleared and in treated patients 60% of cysts disappear after one course of treatment. Furthermore, rebound inflammation may occur after abrupt withdrawal of anthelmintics and/or steroids and may be due to overcompensation of the immune system after removal of treatment with anti-inflammatory medication [15].

Albendazole: having better penetration into the central nervous system, greater cysticidal effect, less interaction with other drugs and lower price compared to PZQ [15,12,16,17]. The regimen has been adapted according to worldwide clinical experience and currently a 3days- to two-week course of 15mg/kg in two divided doses twelve hours apart has been recommended [1,13,15,18-20,21,]. Treatment with ALB has also shown to be effective in solitary cerebral cysticercus granuloma in that it accelerated resolution of the granuloma with the possibility of early withdrawal of AEDs and also offered some protection against recurrence of seizures [22-25].

In the presence of hydrocephalus due to an intraventricular cyst, placement of a ventricular shunt is recommended, followed by surgical extirpation of the cyst and subsequent medical treatment [26]. Steroid (prednisolone or dexamethasone) is used for the management of complications due to neurocysticercosis.

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