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Research Article

Joint Clinical Transmission of Internal Parasitosis with Acute Infection in Karakalpakstan

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Abstract

In Karakalpakstan, the clinical course of the acute intestinal infection and intestinal parasitosis was learned. Eventually, people that got infected with 42,5% enterobiosis and 57,5% giardiasis of the acute infection than the mono infection is ratherly more slow for them to recover (P < 0,05).

People that were infected by the shigellosis and parasitosis have more multiple negative effects than the salmonellosis and parasitosis (hemicolitis - 7,0 ± 2,6 days), which the clinic has observed (13,0 ± 3,1 hospital bed-days).

Keywords: *Karakalpakstan; Salmonellosis; Shigellosis Parasitosis; Enterobiosis; Giardiasis*

Introduction

According to the WHO, developing countries in Asia, Africa, Latin America and other countries spend 100 million dollars a year for the patient suffers from acute intestinal disease. Of these, the under-five mortality rate is 23%. Acute intestinal infection is the leading cause of death in children, followed by salmonellosis and shigellosis. Salmonellosis and shigellosis are common in the world, and salmonellosis has increased 5 - 7 times in the last 20 - 25 years compared to 1990. The reason for this should be sought in the process of centralization of food production and food supply to the population, as well as in the process of violating the shelf life of food exported or imported [4,5]. In economically developed countries, the increase in shigellosis, especially *Shigella sonnei*, is explained by the high degree of centralization of food supply to the population and the fact that the population mainly uses public places to eat [1,4,5].

The clinical course of salmonellosis and shigellosis in patients is also associated with the presence of other related diseases. In particular, it can be associated with severe complications when combined with intestinal parasitosis [2,3]. In patients with bacterial intestinal infections, several organs are injured against the background of general intoxication. In this case, when intestinal parasitosis is added as a co-morbid disease, the patient is observed anemia, decreased immunity. As a result, the recovery of the underlying disease is prolonged or complicated. Intestinal parasitosis and intestinal bacterial infection play an important role mainly in the fecal-oral mechanism of transmission. For this reason, we aimed to study the level of the clinical course of these mixed infections in the Republic of Karakalpakstan.

Purpose of the Study

To study the clinical course of acute intestinal infection and intestinal parasitosis in Karakalpakstan.

Materials and Methods

Clinical-laboratory, bacteriological, parasitological, and statistical methods were used in the research. There were 60 patients with acute intestinal diseases (mainly bacteriologically confirmed salmonellosis and shigellosis) + parasitosis in the follow-up, who were mainly treated at the Infectious Diseases Hospital of the Republic of Karakalpakstan in 2017 - 2019 and controlled as a result of outpatient treatment. Patients with mixed infections were divided into 2 groups as follows: the first group included 40 patients (main group) and the second group included 20 patients (control group). In the main group there were 12 (30.0%) giardiasis on the background of salmonellosis, 8 (20.0%) enterobiasis and 11 (27.5%) giardiasis on the background of shigellosis, 9 (22.5%) enterobiasis. Patients in the control group had only salmonellosis 11 (55.0%) and shigellosis 9 (45.0%). The obtained results were statistically processed on a special computer Pentium-IV using Microsoft Office Excel-2003.

Results and Discussion

Of the patients under observation, 38 (63.3%) were boys, men and 22 (36.7%) were girls and women. The mean age of the patients was 18.5 ± 2.4%. The clinical symptoms reported in the follow-up patients are listed in table 1.

No	Clinical symptoms	The main group	Control group	P < 0,05
		n = 40	n = 20	
1.	Fever	100,0 ± 0	95,6 ± 2,3	> 0,05
2.	General intoxication	98,5 ± 2,8	93,7 ± 3,1	> 0,05
3.	Diarrhea	100,0 ± 0	95,8 ± 2,7	> 0,05
4.	Headache	88,2 ± 3,2	85,0 ± 2,5	> 0,05
5.	Nausea	89,7 ± 3,7	72,8 ± 1,9	< 0,05
6.	To return	85,4 ± 3,5	67,9 ± 2,8	< 0,05
7.	General weakness	100,0 ± 0	92,7 ± 2,5	> 0,05
8.	Pain in the abdomen	100,0 ± 0	80,5 ± 1,8	< 0,05
9.	Low appetite	80,6 ± 3,1	69,8 ± 2,9	< 0,05
10.	Rapid fatigue	100,0 ± 0	87,2 ± 3,5	< 0,05
11.	Nervousness	81,7 ± 3,1	40,5 ± 3,8	< 0,05
12.	Teething	75,7 ± 3,8	15,6 ± 2,7	< 0,05
13.	Skin discoloration	86,3 ± 5,6	72,2 ± 2,6	< 0,05
14.	The presence of white spots on the skin	27,6 ± 2,4	7,0 ± 1,8	< 0,05
15.	Constipation	25,7 ± 2,1	5,4 ± 1,5	< 0,05
16.	Insomnia	56,5 ± 2,7	12,9 ± 1,8	< 0,05

Table 1: *Clinical when referring patientssymptoms (M ± m)%.*

Note: P is the reliability of the comparative index in the main and dissatisfaction groups.

When analyzing the clinical symptoms listed in table 1, the complaints of patients in the main group were reliably differentiated from the control group by the following symptoms: fever, general intoxication, diarrhea, headache, and general weakness (P > 0.05); < 0.05).

This means that the disease was more severe in the main group of patients than in the control group.

The duration of extinction of clinical symptoms in the observed patients was examined on the following symptoms: tenesmus, hemocolitis, abdominal pain, fever, bed rest. Symptoms of tenesmus observed in both groups of patients were 7 ± 1.6 days in shigellosis +

parasitosis, 4 ± 1.1 days in shigellosis and 2 ± 0.8 days in salmonellosis + parasitosis; hemocolytic symptom for 7 ± 2.6 days in shigellosis + parasitosis for 4 ± 1.2 days in shigellosis and 1 ± 0.6 days in salmonellosis + parasitosis; symptom of abdominal pain for 10 ± 2.9 days in shigellosis + parasitosis 5 ± 1.8 days in shigellosis, 6 ± 1.9 days in salmonellosis + parasitosis and 4 ± 1.2 days in salmonellosis; fever symptom was observed for 9 ± 2.8 days in shigellosis + parasitosis, 6 ± 1.9 days in shigellosis, 5 ± 1.8 days in salmonellosis + parasitosis and 2 ± 0.8 days in salmonellosis. Comparing patients by bed-days: patients with shigellosis + parasitosis were treated in the hospital for 13 ± 3.1 days in shigellosis for 9 ± 2.6 days, salmonellosis + parasitosis for 8 ± 2.7 days and patients with salmonellosis for 6 ± 1.9 days.

Thus, based on the symptoms analyzed above, it was found that the clinical symptoms persisted longer in the main group of patients, therefore, the patients were treated longer and the disease progressed with complications (hemocolitis, tenesmus). However, severe clinical course of mixed-infection patients was observed with more shigellosis + parasitosis.

The results of bacteriological examination of the pathogens of acute intestinal infections are given in table 2.

No	The name of the causative agent of acute intestinal infection	The main group	Control group	P < 0,05
		n = 40	n = 20	
1.	*S. enteritidis*	25,0 ± 1,6	27,3 ± 2,3	> 0,05
2.	*S. typhimurium*	75,0 ± 3,2	72,7 ± 4,7	> 0,05
3.	*Sh. sonnei*	35,0 ± 2,7	33,3 ± 3,9	> 0,05
4.	*Sh. flexneri*	65,0 ± 3,2	66,7 ± 4,8	> 0,05

Table 2: *Results of bacteriological examination of patients (M ± m)%.*
Note: P is the reliability of the comparative index in the main and dissatisfaction groups.

Based on the data in table 2, the following conclusions can be drawn: the amount of pathogens isolated from patients in both groups was almost indistinguishable (P > 0.05). Thus, as for the etiological structure of the pathogens, the disease in salmonellosis is mainly *S. typhimurium* (75.0 ± 3.2%) and in shigellosis *Sh. flexneri* (65.0 ± 3.2%).

Thus, in Karakalpakstan, the clinical course of acute intestinal infections with parasitosis was more severe and complicated than with monoinfection (P < 0.05). When considering mixed infections, patients with shigellosis + parasitosis were more complicated than those with salmonellosis + parasitosis, the clinic was prolonged and therefore more hospitalized.

Conclusion

Based on the above, the following conclusion can be made:

1. Acute intestinal infections in Karakalpakstan with 42.5% enterobiosis and 57.5% giardiasis were more severe and complicated than monoinfection (P < 0.05).
2. Patients with shigellosis + parasitosis were more complicated (hemocolith-7.0 ± 2.6 days) than those with salmonellosis + parasitosis and the clinic was prolonged (13.0 ± 3.1 bed-days).

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