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HISTLOLGICAL STUDY OF THE EFFECT OF ISOLATES OF ESCHERICHIA CLOI ON THE SYRIAN HAMSTERS

Annotation: *Escherichia coli (E. coli) was isolated from children with diarrheal disease as a leading cause of bacterial diarrhea between May 2016 and April 2017, with 179 samples of Feces, 126 male samples and 53 female samples* [12, с. 17].

The number of bacterial pathogens was 106, while the rest were diarrhea samples from other pathogens, viral, parasitic and other [12, с. 17].

Of the 106 samples of bacterial pathogens, the number of diarrhea samples from E. Coli was 76, the highest among the bacterial pathogens of diarrhea in the patients studied, followed by the infection of the entrobacter infections 16, and then the Pseudomonas 10 infections and finally the Klebsiella 4 infections, Were diagnosed by biochemical tests and confirmed using a biological ruler [12, с. 17].

The histological study showed that the internal organs of the Syrian hamster were affected by doses of E. Coli isolates.

Key words: *E. coli, Hamster, internal organs.*

ГИСТОЛОГИЧЕСКОЕ ИССЛЕДОВАНИЕ ВЛИЯНИЯ ИЗОЛЯТОВ КЛЕЙ ESCHERICHIA, ПРИЧИНЯЮЩИХ ДИАРЕЮ НА ЛУКЕР И КИШЕЧНИК СИРИЙСКИХ ХОМЯКОВ (CADRES)

Аннотация: *В статье было исследовано Escherichia coli, она была выделена у детей с диарейными заболеваниями в качестве основной причины бактериальной диареи в период с мая 2016 года по апрель 2017 года. В исследовании были изучены 179 образцов фекалий, 126 образцов мужского пола и 53 образца женского пола и сделан вывод.*

Количество бактериальных патогенов составляло 106, в то время как остальные были образцы диареи от других патогенов, вирусных, паразитарных и других [12, с. 17].

Из 106 образцов бактериальных патогенных микроорганизмов число образцов диареи из кишечной палочки составило 76, что является самым высоким показателем среди бактериальных возбудителей диареи у исследованных пациентов, за которыми следуют инфекции, вызываемые энтробактером 16, а затем инфекции Pseudomonas 10 и наконец, инфекции Klebsiella 4, были диагностированы с помощью биохимических тестов и подтверждены с использованием биологической линейки [12, с. 17].

Гистологическое исследование показало, что дозы этих изолятов влияли на внутренние органы сирийского хомяка.

Ключевые слова: *Э. Коли, Хомяк, внутренние органы.*

1. Introduction:

Escherichia coli is one of the most important causes of bacterial diarrhea in patients. The incidence of bacterial diarrhea in patients in third world countries is increasing. While the incidence of infection was 45.6% in 2008 [1, c. 269], it increased to 63.8% in 2001 [2, c. 2134]. The following centers for bacterial diarrhea in patients were Shigella, Salmonella, Klebsiella, Vibrio Cholera, and jejuni Campylobacter [3, c. 398].

The mechanism of the pathogenesis of these bacteria is the secretion of toxin Produce and its adhesion to the wall of the intestine and invasion of intestinal mucus Invasiveness [4, c. 113].

Studies have shown that any dysfunction in the absorption mechanism in both the small intestine or the large intestine in patients leads to diarrhea, whether the infection of viruses or pathogens, parasites or other pathogens. [6, c. 75] Such imbalance occurs as a result of infection pathogens Such as Escherichia coli, Salmonella, Klebsiella, Shigella and others [5, c. 128].

In a study conducted in neighboring countries such as Iraq, the percentage of bacterial diarrhea in patients in Iraq was 56.7% and 33.7% was caused by typhoid and the rest was due to various cancers such as tumors in Bolivia [7, c. 132]. leukemia and other causes of unknown origin, and the proportion of bacterial diarrhea Caused by E. Coli infection reached 48.3% [8, c. 115]. and parasites, specifically Amoeba, reached 33.7% [9, c. 124].

2. Objective of the research:

a- Detection of Escherichia Coli as the most important causes of diarrhea in patients in the city of Damascus.

b- Study of the disease damage to isolates on the tissues of the hamster and Syrian hamsters.

3. Results and Discussion:

The results of our study were very close to the results of studies conducted in developing countries where the percentage of bacterial diarrhea 59.2% while the proportion of samples of diarrhea from other non-microbial factors 40.8%.

Escherichia coli showed a large fecal colony on the distinctive EMB plant with a distinctive green metallic luminescence of E. Coli [12, c. 17] .

Biological API 20E system Results showed the use of biological ruler API 20E has the following results 5144572. This figure corresponds to Escherichia Coli [12, c. 17].

Histological study:

A histopathological study of E. Coli bacteria was performed on the Syrian hamster, the aim of this experiment was to cause infection with E. Coli bacteria in the Syrian hamster as an experimental animal, and to study the pathological changes caused by this infection with special emphasis on the different parts of the small intestine and liver.

Experiment animals:

Hamsters were raised in special conditions at room temperature between 25-22°C and with adequate lighting. The animals were placed in specially designed metal cages equipped with water and feed. To accomplish this goal, sixteen hamsters were subjected to the following:

Histological examination results:

The Escherichia Coli was studied in the Syrian hamster:

Figure 1. The pathological symptoms of hamsters given a severe isolation of the Escherichia Coli (left) compared to the control group (right).

Anatomical lesions:

Animals infested with Escherichia coli:

The anatomical lesions were low in the hamster groups, which were given the coagulation isolation of *E. Coli*, whereas no anatomical lesions were observed on the control group, provided with distilled water and were normal until the end of the experiment.

Figure 2. Shows the anatomical lesions on the hamster's control group, showing both the liver and the natural intestine.

2- microscopic lesions (histological). In animals given isolation of Escherichia coli:

A.1-intestine:

Tissue changes were observed in this tissue and were not normal.

The histological examination of the members of the hamsters that gave the isolating isolation of *E. Coli* isolation on the sixth day after the infection was also indicated:

A.2-Liver:

Large areas of macular degeneration have been observed in most of the central veins. This condition is called acute cell swelling, which causes the swollen cells to compress the hepatic sinuses (hepatocellular sinuses) with the observation of the size of the kupfer cells in the compacted cells.

Figure 6. A section in the liver of an experimentally infected hamster isolating *E. Coli* at the sixth day after infection. observation 1000.×

A.3-intestine:

No tissue changes were observed in this tissue and the lymphatic tissue in the Bayer stain was not naturally and not normal.

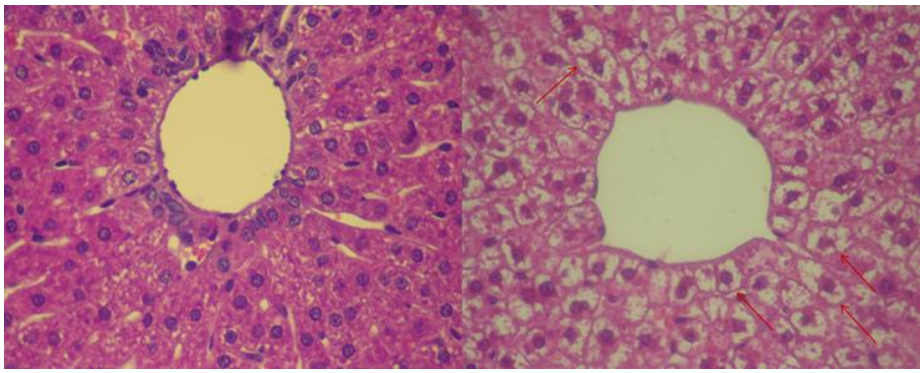

Figure 7. A section in the intestines of a hamster was empirically infected with *E. Coli*isolated on the sixth day after infection. Tissue changes were observed compared to the X1000 left control.

B-In animals control:

Histological examination of members of hamsters fed distilled water showed no histologic changes in the studied organs (liver-intestine) and were normal as shown in the above images when comparing the E. Coli group with the control group in each member (liver-gut) alone.

4. Conclusions:

All species responsible for bacterial diarrhea in patients are Gram-negative bacteria, the proportion of bacterial diarrhea in the summer in patients is greater than

the proportion of viral and parasitic diarrhea, Escherichia coli is responsible for the largest proportion of bacterial diarrhea in patients [10, c. 77].

Both Escherichia coli isolates caused significant liver damage to Syrian hamster groups compared to the control [11, c. 23]., the damage to the intestine is caused by the condition of the intestinal mucosa and the spread of the diffuse acute cell, occurs with the size of the kupfer cells in the compressed vacuume.

The pathological effects on the liver are manifested in the inflammation and hypertrophy of the liver and bile duct, and the filling of the biliary follicle in the yellow, and the emergence of the condition of degeneration in liver cells.

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