Survey of Fungal contamination in imported poultry meat (Akafil Products) in the city of Al-Diwaniyah / Iraq

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Abstract

The study included the investigation of the presence of fungal contamination in frozen poultry meat from the products of the imported Alkafil, which are sold in the centers of the Alkafil products in most of the governorates of Iraq. 40 samples were collected from the different alkafil products centers in Diwaniyah governorate including 3 centers (Alkafil products centers 84, Alkafil products centers 95, alkafil products centers 70), which was randomly selected for the period from 1/11/2017 to 1/5/2018. Results: The results showed that all samples collected for the study were contaminated with different types and in varying numbers of human pathogenic fungi, including Aspergillus niger, Aspergillus ochraceus, Aspergillus flavus, Fusarium solani, Pencilliumsp, Cladosporium sp. Conclusions: The findings showed that the highest isolated was Aspergillus in most samples collected for the study and all fungal species Isolated of poultry meatare a human pathogen and cause food poisoning. These fungal fungi are mandatory and elective. Their nutritional needs are simple and produce large numbers of reproductive units, most of which cause health and environmental problems. As a result of the increasing demand for the products of the alkafil, we decided to investigate the existence of an accidental contamination of the seriousness of fungi on health in general. The study pointed out that the extent to which poultry meat is contaminated with human pathogens that cause health problems.

Keywords: fungal contamination of poultry meat, Alkafil products

1. Introduction

Food is contaminated by several contaminants, whether physical or chemical, at any stage of production, storage, transportation, marketing, and circulation leading to the occurrence of foodborne infections. Various cases of infection caused by protein foods and are due to the presence of microorganisms such as catalytic bacteria and fungus in meat Poultry, which is derived from human, animal or environment(1).

Chicken meat is an appropriate medium for the growth of microflora as a food containing 23.4% proteins and 4.7-1.9% fat in its chemical composition. It contains Thymine, Niaysin and Riboflavin vitamins 0.08-0.05, 10.7-7.2 and 0.20-0.09 mg / 100g chicken meat respectively. These proteins can analyze the proteins found in the chicken meat by the enzymes analyzed(2). Poultry meat is also easy to digest and is an ideal nutritional medium for
many microscopic animals for the high humidity that decreases as the air progresses in age. The approximate ratio between water and dry matter is estimated at C poultry and poultry meat contains many saturated fatty acids, especially 18:1, poultry is fat-soluble and has a distinctive flavored taste (3). During the past period, different types of frozen poultry meat with different origins have been introduced to the markets, and almost all of which are devoid of health control and the fact that chicken meat of all kinds is fast food and have been stored or stored in adverse conditions due to the presence of several of the glaciers on their surface (4).

The absence of sanitary control, poultry meat is currently susceptible to microbial contamination. This study was designed to assess microbial contamination levels in poultry meat from alkafil products because it spreads in the local markets and has a consumer demand in the city of Diwaniyah.

2. Material and Methods

A total of 40 samples for poultry were collected from the centers of the different alkafil products in Diwaniyah governorate. Small pieces were taken from different places of the product (chicken) and were planted on the sterile and pre-prepared PDA according to the manufacturer with a plastic petri dish with 3 dishes per sample according to the sample collection site and then incubated in the incubator at 27 °C for a maximum period of 7 days.

After the incubation period and the emergence of fungal growth in the dishes, the fungal species developing on the dish were diagnosed based on the external appearance of the fungal colony and then identified microscopically based on the taxonomic characteristics adopted (5;6).

3. Results and Discussion

The results indicated that all products collected for the study are contaminated with different types and in varying numbers of fungi. The majority important of which is a fungus (Aspergillus niger (Fig1), Aspergillus ochraceus (Fig 3), Aspergillus flavus (Fig3), Fusarium solani (Fig2), Pencilliumsp (Fig4), Cladosporiumsp (Fig4). All isolated fungi are spread in all different environments and they have been isolated from various sources, including air (7).

The reason for contamination of poultry meat with isolated fungal species is due to the conditions of the production processes (slaughtering, cleaning, and dehydration). Especially since massacres of domestic production often meet into certain health standards. As well as some mechanisms, that may increase the possibility of microbial or bacterial contamination such as water basins usage instead of running water, in several stages especially washing chicken process that includes. After the removal of the bowel as well as the fact that the contaminants may be sourced from the tools of slaughter in addition to the hands of workers as well as dust and air in the workplace and this is what (8,17).

All isolated fungal species are pathogenic to humans, causing food poisoning. These fungal fungi are mandatory, elective, and require simple food. They produce reproductive units in large numbers, most of which cause health and environmental problems (9-12). Aspergillus ochrarous (Fig3) effects in some tissues of rat's laboratory of causing loss of hepatic architecture, with congestion of central veins, also there is fibrous connective tissue formation. Also there is hyperplasia of bile ducts epithelium in the liver, kidney and the lung. (12-16)
Figure 1: Shows the isolation of *Aspergillus niger*

Figure 2: Shows the isolation of *Fusarium solani*

Figure 3: Shows the isolation of *Aspergillus niger, Aspergillus ochraceus, Aspergillus flavus*

Figure 4: Shows the isolation of *Penicilliumsp, Cladosporiumsp*
4. References

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