食物安全焦點
Food Safety Focus

食物安全中心 Centre for Food Safety

食物環境衞生署 Food and Environmental Hygiene Department

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Review of Food Poisoning Outbreaks Related to Food Premises and Food Business in 2014

食物安全中心
食物事故應變及管理小組
丘灝慈醫生報告

Reported by Dr. Stella YAU, Medical & Health Officer,
Food Incidents Response & Management Unit,
Centre for Food Safety

本文就食物環境衞生署轄下的食物安全中心(中心)在二零一四年接獲的本港食肆及食物業的食物中毒個案作出回顧。

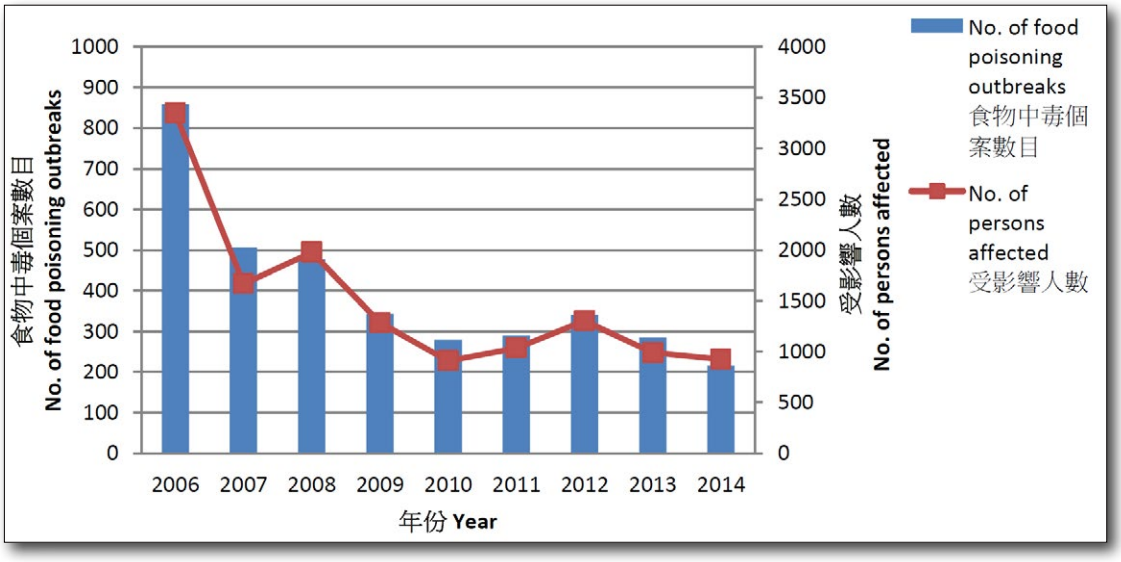
與本港食肆及食物業相關的食物中毒個案

食物中毒在香港是法定須呈報的疾病。為保障公眾健康，中心和衞生署合作調查及監控有關食肆及食物業的食物中毒個案。在二零一四年，中心接獲216宗由衞生署轉介的懷疑食物中毒個案，共有924人受影響。由衞生署轉介的懷疑食物中毒個案數字在二零零六年至二零一零年間逐年下降，過去數年轉趨平穩，保持在每年216至350宗之間（見圖）。

This article reviews the food poisoning outbreaks related to local food premises and food business that were reported to the Centre for Food Safety (CFS) of the Food and Environmental Hygiene Department in 2014.

Food Poisoning Outbreaks Related to Local Food Premises and Food Business

Food poisoning is a statutory notifiable disease in Hong Kong. To protect public health, the CFS, in collaboration with the Department of Health (DH), is responsible for the investigation and control of food poisoning outbreaks related to local food premises and food business. In 2014, the CFS received 216 food poisoning cases referred from the DH which affected 924 persons. The annual number of referred cases decreased generally from 2006 to 2010 and had since remained relatively stable over the past few years, ranging from 216 to 350 cases per year (see Figure).



2006至2014年有關食肆／食物業的食物中毒個案數目及受影響人數

Number of food poisoning outbreaks related to food premises/food business and the corresponding number of persons affected from 2006 to 2014

病原體及成因

在二零一四年所有個案中，由細菌引起的仍然佔大多數(80%)，排在頭三位的是副溶血性弧菌、沙門氏菌和蠟樣

Causative Agents and Contributing Factors

Bacterial foodborne agents remained the leading causes (80%) of all food poisoning outbreaks in 2014, with *Vibrio parahaemolyticus*, *Salmonella* and *Bacillus cereus* being the top three bacterial pathogens. For the viral causes, norovirus,

焦點個案
Incident in Focus

芽孢桿菌。至於病毒所引起的食物中毒個案，全部都是因進食生的或未徹底煮熟的雙殼貝類而感染諾如病毒，佔中心接獲個案總數的12%。

在去年調查的216宗食物中毒個案中，最常見的三個成因分別是生吃的食物受污染、貯存溫度不當和食物未經徹底煮熟。

以下兩宗在二零一四年發生的食物中毒個案說明了保持良好衞生和採取食物安全措施對保障食物安全的重要性。

與進食受諾如病毒污染的生蠔有關的食物中毒個案

諾如病毒是世界各地病毒性食物中毒的主要致病原。在香港，大部分由諾如病毒引致的食物中毒個案都與進食生蠔有關。飲用和進食受污染的水或食物，均有可能感染諾如病毒。由於諾如病毒較耐熱和耐酸，把蠔徹底煮熟才能消滅蠔隻體內的病毒。

二零一四年一月，中心接獲由衞生署轉介的四宗食物中毒個案，事件與進食生蠔有關，涉及三所食肆，有22人受影響。調查發現涉事蠔隻全部來自愛爾蘭。中心遂向有關方面發出業界警報，並暫停進口產自愛爾蘭有關地區的蠔隻。在採取以上控制措施後，本港再沒有出現相關的個案。

因飯盒貯存溫度不當而引起的食物中毒個案

產氣莢膜梭狀芽孢桿菌是一種能產生孢子的細菌，一般存在於肉類和家禽中。與這種細菌有關的食物中毒個案通常涉及需要預先製作大量食物，並長時間把食物存放在不適當溫度下的情況。預防方法包括把食物徹底煮熟，並存放在安全溫度下，即攝氏60度以上或攝氏4度或以下。

二零一四年六月，中心接獲一宗集體食物中毒個案，共93名學童受影響。根據流行病學資料，個案中懷疑受產氣莢膜梭狀芽孢桿菌污染的飯盒是由一間食物製造廠供應。調查結果顯示，飯盒在由食物製造廠運送至學校的途中貯存溫度不當，歷時逾七小時可能是這次事件的肇因。中心要求該食物製造廠遵循良好衞生守則，尤其是要注意存放飯盒的正確溫度。其後中心再沒有收到新的相關個案。

結語

雖然有關食肆及食物業的食物中毒事件數目在過去數年維持在相對低的水平，但我們絕對不會掉以輕心。政府定當一如既往地努力保障食物安全，而業界和市民亦應時刻謹守“食物安全五要點”，以預防食物中毒個案的發生。

associated with the consumption of raw/undercooked bivalves, was found to be the only incriminated viral agent causing around 12% of all the cases referred to the CFS.

Of the 216 cases investigated last year, contaminated raw food (food to be eaten raw), improper holding temperature and inadequate cooking were the most frequently identified contributing factors.

The importance of good hygiene and food safety practices in safeguarding food safety are illustrated by the following two major food poisoning outbreaks that occurred in 2014.

Food Poisoning Outbreaks Related to the Consumption of Raw Oysters Contaminated by Norovirus

Norovirus has been an important causative agent of viral food poisoning around the world. In Hong Kong, raw oyster is identified as the most commonly incriminated food for foodborne norovirus outbreaks. Norovirus can be transmitted via consumption of food or water contaminated with the virus. Norovirus is relatively heat and acid resistant. Hence, thorough cooking is required to kill norovirus in oysters.

In January 2014, the CFS received from the DH four food poisoning outbreaks related to the consumption of raw oysters in three food premises, affecting 22 persons. Investigation revealed a common source of oyster (Ireland) in all clusters. Trade alert was issued to the relevant traders and import of oysters from the affected area in Ireland was suspended. No further related cases occurred afterwards.

An Outbreak Related to Improper Holding Temperature of Lunch Box Meals

Clostridium perfringens is a spore-forming bacterium which commonly presents in raw meat and poultry. Outbreaks of *Clostridium perfringens* often happen when food is prepared in large quantities and kept under inappropriate holding temperature for a prolonged period. Preventive measures include thorough cooking of food and keeping food at the safe temperatures, i.e. above 60°C or at or below 4°C.

In June 2014, the CFS was informed of a major food poisoning case involving 93 school children. Epidemiological information revealed that the incriminated lunch boxes suspected to be contaminated with *Clostridium perfringens* were provided by a food factory. Investigation revealed that improper holding temperature of the lunch box meals during transport from the food factory to school for seven hours or more was suspected to be the contributing factor leading to food poisoning. The CFS instructed the food factory to follow good food safety practices, particularly keeping the lunch boxes at proper holding temperature. No further related cases were reported afterwards.

Conclusion

Although the number of food poisoning outbreaks has remained at a relatively low level over the past few years, there is no room for complacency. While the government will continue to be vigilant in safeguarding food safety, the trade and the public are advised to adopt and adhere to the “Five Keys to Food Safety” in order to prevent the occurrence of future outbreaks.

風險傳達工作一覽
Summary of Risk Communication Work

風險傳達工作一覽（二零一五年三月） Summary of Risk Communication Work (March 2015)	數目 Number
事故/食物安全個案 Incidents / Food Safety Cases	107
公眾查詢 Public Enquiries	125
業界查詢 Trade Enquiries	213
食物投訴 Food Complaints	491
給業界的快速警報 Rapid Alerts to Trade	2
給消費者的食物警報 Food Alerts to Consumers	1
教育研討會/演講/講座/輔導 Educational Seminars / Lectures / Talks / Counselling	76
上載到食物安全中心網頁的新訊息 New Messages Put on the CFS Website	81

食物安全平台
Food Safety Platform

家禽業使用激素？
Using Hormones in Poultry Production?

食物安全中心
屠房(獸醫)組
施領衛獸醫報告

Reported by Dr. Tommy SZE, Veterinary Officer,
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大家可能都聽過家禽被注入激素以加速其生長的傳聞。有人擔心吃了含激素的家禽產品會致癌，女童吃了更會提早來經和性早熟。這些疑慮有根據嗎？

什麼是激素？

激素分為天然激素和人造激素。天然激素由身體器官自行分泌，通過血液運送到指定位置，對生長、發育和生殖等各種生理變化起著重要的協調作用。人造激素模擬天然激素的結構，從而達到類似的效果。二苯乙烯類激素是一類人造雌激素，例子包括己烯雌酚及己烷雌酚。美國的家禽業在二十世紀五十年代曾使用己烯雌酚，本港的家禽業亦曾使用己烷雌酚。由於二苯乙烯類激素屬蛋白激素，一經進食便會分解而失效，因此須經常注射或在皮下植入藥物顆粒(例如己烷雌酚)方可見效。

世界各地對二苯乙烯類激素的立場

己烯雌酚在一九八七年經國際癌症研究機構評估後被列為令人類患癌的物質。有鑑於此，專門制定食物標準的國際機構食品法典委員會未有就食物中的己烯雌酚建議一個安全水平。現時，香港、內地、澳洲、歐盟和美國等地均禁止對家禽使用己烯雌酚等二苯乙烯類激素。

二苯乙烯類激素會導致早熟？

上世紀七十年代末，意大利有大批年幼學童突然出現胸部發育的症狀，人們懷疑可能是他們在學校食用的牛肉和禽肉含有二苯乙烯類激素殘餘。然而，由於無法取得有關的牛肉和家禽樣本作檢測，當時的調查未有結果。

在八十年代，波多黎各亦有愈來愈多八歲甚至更年幼的女童進入青春期，為了研究這個現象，調查人員對肉類和家禽中的二苯乙烯類激素殘餘進行了檢測。雖然其中一個來自當地市場的家禽樣本中雌激素的水平高於正常，但該檢查結果後來並未能被其他實驗室所驗證。調查當局在考慮了所有當時獲得的證據後，排除了肉類中的激素導致早熟這個可能性。

家禽快速生長是靠先進的育種技術、營養配方、飼養環境和疾病預防及管理措施。

Poultry reach marketable size earlier because of advances in genetics, nutrition, husbandry, and disease prevention and management.

二苯乙烯類激素還在用嗎？

二苯乙烯類激素能加速家禽生長這個說法並沒有足夠的證據支持，但二苯乙烯類激素能令家禽的身體，特別是胸部和腿部的脂肪增加，令肉質更加嫩滑。不過，現在的消費者在選擇家禽產品時均捨肥而選瘦，所以這個特徵已不再是賣點。

今時今日的家禽快速生長靠什麼？

現在的家禽生長快速，主要得益於家禽業多年來在育種、營養、飼養環境和家禽健康等方面取得長足的進展。養殖人員挑選優良的品種進行育種，並利用先進的營養技術，在飼料中加入精準分量的

At one point or another, some of us may have heard that poultry are injected with hormones to promote growth. There are concerns that consuming such tainted poultry products could lead to the development of cancer, as well as early menarche and premature sexual development in young girls. Are these myths or facts?

What are Hormones?

There are natural and synthetic hormones. Natural hormones are produced by bodily organs and transported into the bloodstream to target sites to regulate physiological responses such as growth, development and reproduction. Synthetic hormones, on the other hand, are made to mimic the actions of their natural counterparts. Diethylstilboestrol (DES) and hexoestrol, examples of stilbenes which is a group of synthetic oestrogen hormones, were used in poultry production in the US (in the 1950s) and Hong Kong respectively. As stilbenes are protein hormones which would be broken down after ingestion and become non-functional, they need to be given by frequent injections or pellet (e.g. hexoestrol) implanted under the skin.

Global Attitudes to Stilbenes

DES is considered carcinogenic to humans by the International Agency for Research on Cancer (IARC) in its evaluation in 1987. Taking this into consideration, the Codex Alimentarius Commission, an international food standard setting body, does not recommend a safe level for DES in food. Stilbenes including DES are currently banned to be used in poultry in places such as Hong Kong, the Mainland, Australia, the European Union and the US.

Stilbenes Cause Early Puberty ?

In the late 1970s, there were concerns about the consumption of beef and poultry contaminated with stilbene residues in school meals causing breast enlargement in very young children in Italy. However, the result of investigation was inconclusive due to the fact that the suspected beef and poultry samples were not available for testing.

In the 1980s, increased number of girls in Puerto Rico reaching puberty at the age of eight or earlier led to an investigation on stilbene residues in meat and poultry. Although a poultry sample obtained from the domestic market was shown to have higher than normal level of oestrogen, the result could not be verified by further laboratory testing. After considering all available evidence, the investigating authority eliminated hormones in meat as the likely cause.

Likelihood of Stilbenes Still in Use

There is insufficient evidence to show that stilbenes enhance growth of poultry. But stilbenes, including DES, increase fatness of poultry especially the muscle at the breast and leg areas to give the "juiciness" of meat. Such characteristics are no longer welcomed by consumers, as they now have a preference for lean poultry products, rather than fat.

Rapid Growth of Poultry Nowadays

Over the years, the rapid growth of modern commercial poultry has been largely attributed to genetic, nutrition, husbandry and health improvements. Birds with desirable traits are selected and bred for production. Advances in nutrition allows poultry producers to provide the exact amount of carbohydrate, protein, fat, minerals and vitamins in feed to maximise the growth rate. In

碳水化合物、蛋白質、脂肪、礦物質和維他命，令家禽達到最佳生長速度。此外，現代化的養殖場為家禽提供優良的環境，包括更佳的疾病預防及管理措施，確保家禽依預定的目標和生長周期成長。

本港的規管情況

根據《公眾衞生(動物及禽鳥)(化學物殘餘)規例》(第139N章)及《食物內有害物質規例》(第132AF章)，己烯雌酚、己烷雌酚及乙二烯雌酚(包括它們的鹽類及酯類)這三種二苯乙烯類激素均屬違禁化學物／物質，在家禽及家禽產品中使用上述物質屬違法行為。為確保家禽及家禽產品適宜供人食用，政府有關部門一直在本地家禽養殖場，以及進口、批發及零售層面對以上二苯乙烯類激素進行監察。二零零八至一四年間均無檢出有關違禁化學物。

給市民的建議

1. 購買家禽及家禽產品時應光顧可靠的供應商。
2. 監察結果令人滿意，加上現代化的飼養規範，市民無須過分憂慮家禽和家禽產品含二苯乙烯類激素。

給業界的建議

1. 向可靠的供應商採購家禽和家禽產品。
2. 不得在家禽身上使用二苯乙烯類激素，並應對相關規例有所認識，以確保家禽及家禽產品適宜供人食用。

addition, modern poultry farms provide a well-maintained environment with better disease prevention and management to ensure the birds reach the desired performance and growth rate.

Local Regulatory Control

Three stilbenes, namely DES, hexoestrol and dienoestrol, including their salts and esters, are prohibited chemicals/substances under the Public Health (Animals and Birds) (Chemical Residues) Regulation (Cap 139N) and the Harmful Substances in Food Regulations (Cap 132AF). Using any of them in poultry and poultry products is illegal. To ensure poultry and poultry products are fit for human consumption, the regulatory bodies also conduct surveillance of the above prohibited chemicals at local poultry farms, as well as at import, wholesale and retail levels. There were no positive cases detected from 2008 to 2014.

Advice to the Public

1. Purchase poultry and poultry products from reliable sources.
2. Satisfactory surveillance findings and modern-day husbandry practice indicate that there is no undue concern over the presence of stilbenes in poultry and poultry products.

Advice to the Trade

1. Source poultry and poultry products from reliable suppliers.
2. Not to use stilbenes in poultry and be familiar with relevant regulations to ensure poultry and poultry products sold are fit for human consumption.

食物事故點滴
Food Incident Highlight

甲型肝炎與食物

香港今年的甲型肝炎個案有所增加，單是首三個月的呈報個案數字已接近之前的全年總和。甲型肝炎由甲型肝炎病毒引致，會造成肝臟細胞發炎。某些地區爆發甲型肝炎與進食生或未經徹底煮熟的受污染貝類水產(例如蠔)或新鮮蔬果(例如漿果)有關。

甲型肝炎病毒可透過受污染的食物、水或物件，以及經直接或間接的人傳人接觸而傳播。此外，交叉污染及食物處理人員沒有保持良好的個人衞生習慣亦可以傳播病毒。

遵行“食物安全五要點”可有效預防經食物傳播甲型肝炎。為減低感染甲型肝炎病毒的風險，市民和業界應在個人衞生和食物配製方面奉行良好衞生守則，從而預防交叉污染；向可靠來源採購食物配料；水果在進食前以飲用水清洗；並盡量把食物徹底煮熟，因為這才是消滅甲型肝炎病毒的殺手鐧。

Hepatitis A and Food

In the first three months of 2015, the total number of hepatitis A cases reported locally increased to almost the same as the annual number recorded previously. Hepatitis A is caused by hepatitis A virus (HAV) leading to inflammation of the liver cells. In some places, outbreaks have been associated with the consumption of contaminated raw/inadequately cooked shellfish (e.g. oysters) or fresh produce (e.g. berry fruits).

HAV can be transmitted via contaminated food, water or environmental objects, and through direct or indirect person-to-person contact. Furthermore, cross contamination and poor personal hygiene of food handlers may contribute to the spread of HAV.

Foodborne hepatitis A infection could be prevented effectively by practising the "Five Keys to Food Safety". The public and the trade are advised to maintain proper hygiene personally and during food preparation to prevent cross contamination, and to obtain food ingredients from reliable sources. Wash fruits with potable water before consumption to reduce the risk of hepatitis A infection. Thorough cooking, wherever applicable, remains the final critical step to destroy HAV.

愛爾蘭多尼戈爾郡生蠔被禁入口

食物安全中心(中心)在二月調查由諾如病毒引起的食物中毒個案時，接獲愛爾蘭當局通知，在多尼戈爾郡(Donegal County)一生產生蠔的加工企業檢出有關病毒。為審慎起見，中心已禁止所有來自該郡的生蠔入口香港。

諾如病毒常見於受污染的水中，在污水區生長的蠔在濾食時很容易受諾如病毒污染。諾如病毒會令患者的胃及／或腸發炎，常見的症狀包括噁心、嘔吐、腹瀉和腹痛。

由於現時並沒有有效措施可完全消除生蠔體內的諾如病毒，消費者在選擇食物時，應多加注意有關的食物安全風險。業界應向信譽良好的供應商採購生蠔，並確保蠔隻附有原產地有關當局簽發的衞生證書。

Import of Raw Oysters from Donegal County, Ireland Banned

In February, during the investigation on norovirus food poisoning outbreaks, the Centre for Food Safety (CFS) was notified by Irish authorities that norovirus was found in a raw oyster processing plant in Donegal County. For the sake of prudence, the CFS has banned the import of all raw oysters from Donegal County into Hong Kong.

Norovirus is commonly found in sewage. Oysters may be contaminated by norovirus due to filter feeding in sewage-contaminated waters. In humans, norovirus causes inflammation of the stomach and/or intestines. The most common symptoms are nausea, vomiting, diarrhoea and stomach pain.

As there is no effective measure that can completely eliminate the risk of norovirus in raw oysters, consumers should pay particular attention to the associated food safety risk when making food choices. Traders should obtain raw oysters from reliable sources with health certificates issued by relevant authority of the exporting countries.