

食物安全焦點

Food Safety Focus



食物安全中心
Centre for Food Safety

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食物安全中心
風險評估組

研究主任方朗茵博士報告

Reported by Dr. Fiona FONG, Research Officer,
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二零一六年九月，有本港報章報道某超市售賣的一款魚壽司有蟲狀異物。早在八月時，新英格蘭醫學期刊報告日本一名女子吃了生的三文魚兩小時後開始胸腹疼痛，檢查時發現有多條異尖線蟲幼蟲正在鑽進她的胃黏膜。這兩宗報道引起市民關注。本文將探討魚類含寄生蟲的風險及供生吃魚類的寄生蟲控制措施。

魚類中的寄生蟲

進食生或未經煮熟而又含寄生蟲的海產有可能危害健康。眾所周知，生的淡水魚(例如鯪魚和大頭魚)可能帶有可令肝臟內膽管梗阻、發炎和出現癌症的中華肝吸蟲。可是，大家對於海魚(包括三文魚和吞拿魚)和其他海產含寄生蟲的風險似乎認識不足。

在眾多海產寄生蟲中，最令人關注的是蛔蟲、絛蟲和吸蟲。大多數寄生蟲會令人輕微至中度不適。患者也有可能出現紅疹和痕癢等過敏反應。在一些較為嚴重及複雜的個案，除了引致腹瀉和腹部不適外，一些寄生蟲(例如肺吸蟲)甚至有可能進入患者的重要器官(例如肺部)，引起嚴重併發症。

異尖科線蟲寄生在海魚、甲殼類(例如蝦)和頭足類(例如魷魚)的海產體內，是其中一種人類經進食魚類而感染的重要蛔蟲。人類如進食了生或未煮熟而又受寄生蟲感染的魚或漁產品，有可能感染寄生蟲病(例如異尖線蟲病)。

控制措施

聯合國糧食及農業組織指出，野外捕獲的水產較可能帶有寄生蟲；人工

In September 2016, a local newspaper reported the presence of worm-like substances in a type of fish sushi sold at a local supermarket. In August, The New England Journal of Medicine reported a case in Japan that multiple larvae of the parasite Anisakis were found penetrating into the mucosa of the stomach of a woman who had history of consuming raw salmon two hours before the onset of chest and abdominal pain. Both reports aroused public attention. This article discusses the risk of parasites in fish and control measures for parasites in fish that is intended for raw consumption.

Parasites in Fish

Consuming uncooked or undercooked seafood that harbouring parasites can present a human health hazard. It has been well known locally that raw freshwater fish such as grass carp and big head carp may carry Chinese liver fluke which can cause obstruction, inflammation and cancer of the biliary ducts in the livers of humans. However, the public appears to be less alert to the risk of parasites in marine fish including salmon and tuna and other kinds of seafood.



三文魚和吞拿魚等海魚和海產亦有可能帶有寄生蟲
Parasites can also be found in marine fish and seafood such as salmon and tuna

Among parasites, roundworms, tapeworms and flukes are of most concern in seafood. Some of these parasites cause mild-to-moderate gastrointestinal symptoms. Allergic reactions with rash and itching can also occur. In more severe and complicated cases, apart from causing diarrhoea and abdominal discomfort, some parasites such as lung flukes may migrate to other vital organs in humans (e.g. lungs), resulting in serious complications.

Anisakidae are one of the important fish-transmitted foodborne roundworms found in marine fish, crustaceans (e.g. shrimp) and cephalopods (e.g. squid). Humans may get parasitic infection (e.g. anisakiasis) if they consume raw or undercooked infected fish or other infected fishery products.

Control Measures

According to the Food and Agriculture Organization of the United Nations, parasites are more likely to be present

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焦點個案
Incident in Focus

養殖的魚類如投餵的飼料含有寄生蟲，亦有可能受寄生蟲感染。食品法典委員會亦指出，養殖漁業使用生的魚作飼料，或養殖場的水質受污染都是寄生蟲感染的風險因素。野生魚類的生長環境是無從控制的，因此需要在食物鏈下游採取適當的措施，例如妥善處理供生吃或半生吃的魚類。至於養殖魚類，建立良好的寄生蟲防控體系可減少寄生蟲感染的風險。

歐洲食品安全局表示，傳統的醃製和冷熏皆不足以殺死魚內的寄生蟲；在特定條件下進行冷凍和加熱才是殺死魚內寄生蟲最有效的方法。根據食品法典委員會的《魚和漁業製品操作規範》，一般情況下，把供生吃的魚類在-20°C或以下冷凍七天；或在-35°C冷凍約20小時，便能殺死魚內的寄生蟲。

注意要點

- 1.除了生的淡水魚外，海魚(包括三文魚和吞拿魚)和其他海產也可能含有寄生蟲。
- 2.不想從魚類感染寄生蟲，最好是避免進食生或未煮熟魚的魚。
- 3.在特定條件下進行冷凍和加熱是消滅魚內寄生蟲最有效的方法。

給市民的建議

- 買魚應光顧可靠及持牌的店鋪。
- 高危一族，包括長者、幼童、孕婦和免疫系統較弱的人士不宜生吃魚類。

給業界的建議

- 如欲配製及/或售賣壽司和刺身，必須向食物環境衛生署領取相關的牌照/許可證。
- 為減低寄生蟲風險，應採取控制措施，把供生吃的魚類在-20°C或以下冷凍七天；或在-35°C冷凍約20小時。
- 應向可靠供應商購入附有原產地有關當局簽發的衛生證書的魚類。
- 售賣生的魚類和海產的店鋪可在店內展示列有產品已按照若干規定(如歐洲委員會第 853/2004 號規例、《魚和漁業製品操作規範》等)進行處理及加工證明的相關衛生證書副本。

in wild-caught fish and certain aquaculture fish if they are not exclusively fed on diets free of parasites. The Codex Alimentarius Commission also indicated that using raw fish as feed and contaminated water for aquaculture fish farming are risk factors for parasitic infections. As the environment of wild fish cannot be controlled, measures have to be taken at a later stage of the food chain, e.g. processing of fish that will be consumed raw or served undercooked. As for aquaculture fish, a good parasite control programme can reduce the risk of parasitic infections.

The European Food Safety Authority clearly indicates that traditional marinating and cold smoking methods are not sufficient to kill fishery parasites; and freezing and heat treatments, under well-defined condition, remain the most effective processes for killing parasitic larvae. The Codex Code of Practice for Fish and Fishery Products states that freezing at -20°C or below for seven days or at -35°C for about 20 hours for fish intended for raw consumption can kill parasites.

Key Points to Note

1. Besides fresh water fish, parasites can also be found in marine fish including salmon and tuna and other seafood.
2. The best way to prevent parasitic infections from fish is to avoid eating raw or undercooked fish.
3. Freezing and heat treatments, under well-defined condition, are the most effective ways of killing parasites in fish.

Advice to the Public

- Purchase fish from reliable and licensed premises.
- Susceptible populations, including the elderly, young children, pregnant women and people with weakened immune systems are not advised to consume raw fish.

Advice to the Trade

- Obtain relevant licence/permit from the Food and Environmental Hygiene Department for manufacturing and/or sale of sushi and sashimi.
- Freeze fish that is intended for raw consumption at -20°C or below for seven days or at -35°C for about 20 hours as control measures to minimize the risk of parasites.
- Buy fish from reliable sources and obtain health certificates issued by relevant authority of the exporting countries.
- Restaurants selling raw fish and seafood can display copies of appropriate health certificates, which include an attestation of how the products have been handled and processed, in accordance with certain requirements (e.g. Regulation (EC) No. 853/2004, Codex Code of Practice for Fish and Fishery Products).

風險傳達
工作一覽
Summary of
Risk Communication Work

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解讀食物標籤 — 食物致敏物

Understanding Food Labels – Food Allergens

食物安全中心
風險評估組
科學主任馬嘉明女士報告

Reported by Ms. Janny MA, Scientific Officer,
Risk Assessment Section,
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食物安全平台
Food Safety Platform

大部分人享用各式各樣的食物都沒有問題，但有少數“敏感”人士卻會在吃了某些食物或食物配料後，身體出現不良反應，有些反應很輕微，有些卻很嚴重，甚至有致命危險。

食物過敏

食物過敏是指人體免疫系統對食物中某些物質或配料產生反應。如身體對某種物質過敏，即使分量很少也能引起過敏反應。一項香港大學的調查(二零一二年)發現，本港大約每20名兒童便有一名自我報稱對食物過敏，而常見的致敏物有貝類、蛋、奶和花生。

食物過敏的症狀包括臉部、舌頭或嘴唇腫脹、氣喘和皮膚瘙癢等，嚴重的甚至可引起過敏性休克，一種急性且可能致命的過敏反應。

Most people can enjoy a wide range of food without any problem. However, specific foods or food ingredients may cause adverse reactions ranging from mild discomfort to severe, life-threatening reactions in a small proportion of “allergic” people.

Food allergy

Food allergy is a reaction of the body's immune system to some substances or ingredients in food. A very low level of allergenic substance may cause allergy reaction in susceptible consumers. A local survey (2012) by the University of Hong Kong revealed that about 1 out of 20 children in Hong Kong was self-reported to have food allergy, with shellfish, egg, milk and peanut as common allergens.

Symptoms of food allergy can include swelling of the face, tongue or lips, shortness of breath and itchiness. Anaphylactic shock, an acute, severe and potentially life-threatening allergic reaction may develop in severe cases.

常見謬誤 Common Misconceptions

✗ 我每次喝奶後都腸胃不適，一定是對奶類過敏

事實：人們常常把乳糖不耐症誤以為是對奶類過敏。與對奶類過敏所引發的免疫反應不同，乳糖不耐症其實是由於身體缺乏分解乳糖所需的乳糖酶而出現消化不良。奶類過敏通常在出生後頭一年出現，而乳糖不耐症則多發生在青少年和成人身上。

✗ 穀氨酸一鈉（俗稱味精）是食物過敏的常見成因

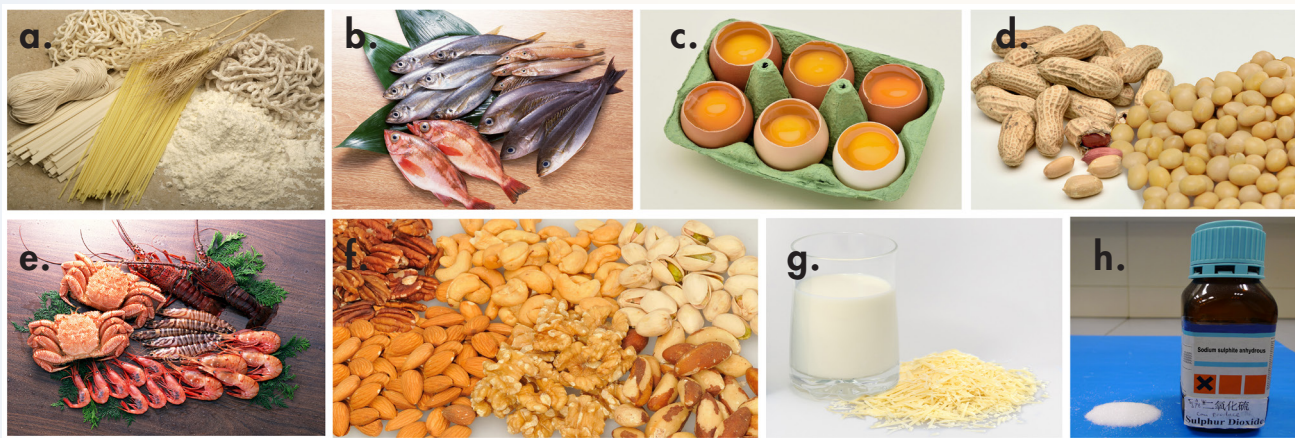
事實：有些人可能自覺對味精敏感，多年來，亦偶有報道指有人在食用含有味精的食物後短暫出現輕微症狀（頭痛、頸後麻木／刺痛、面色潮紅、肌肉緊張及全身乏力等綜合症狀）。但是，多個國際和國家食物安全機構曾多次評估味精的安全性，結論是目前的證據不足以支持食用味精和這些綜合症狀之間存在任何因果聯繫。

✗ I must be suffering from milk allergy as I have digestive symptoms after drinking milk

Fact: Lactose intolerance is often mistaken as milk allergy. Unlike milk allergy, lactose (milk sugar) intolerance is a digestive disorder due to the deficiency of lactase (an enzyme for digesting lactose) which is not an immune response. Milk allergy usually appears in the first year of life while lactose intolerance occurs more often during adolescence and adulthood.

✗ Monosodium glutamate (MSG) is a common cause of food allergy

Fact: Some people may consider themselves as sensitive to MSG and, over the years, there have been reports on cases of occurrence of mild and short-term symptoms (the symptom complex of headache, numbness/tingling in back of neck, flushing, muscle tightness and generalised weakness) after the consumption of MSG. Nevertheless, a number of international and national food safety authorities have evaluated the safety of MSG and concluded that available evidence has failed to demonstrate a causal relationship between the consumption of MSG and the development of this symptom complex.



預先包裝食物的標籤上須標明的八種致敏食物／食物配料 (a. 含有麩質的穀類(即小麥、黑麥、大麥、燕麥、裂穀小麥、它們的混合變種及它們的製品), b. 魚類及魚類製品, c. 蛋類及蛋類製品, d. 花生、大豆及它們的製品, e. 甲殼類動物及甲殼類動物製品, f. 木本堅果及堅果製品, g. 奶類及奶類製品(包括乳糖), h. 濃度達到或超過百萬分之十的亞硫酸鹽)

Eight specific foods/ food ingredients causing food allergy that require labelling in prepackaged foods (a. cereals containing gluten (namely wheat, rye, barley, oats, spelt, their hybridized strains and their products), b. fish and fish products, c. eggs and egg products, d. peanuts, soybeans and their products, e. crustacea and crustacean products, f. tree nuts and nut products, g. milk and milk products (including lactose), h. sulphite in a concentration of 10 parts per million (mg/kg) or more)

標示食物致敏物

食物過敏症在現時是無法根治的，控制這種病症的唯一有效方法是避免進食含有致敏物的食物。因此，對有關人士來說，為了防止誤食致敏物，食物標籤上的致敏物資料是非常重要的。

本港規例與食品法典委員會的國際標準一致，訂出八種引起

Labelling for Food Allergens

Currently, there is no cure for food allergy. The only successful method to manage is avoidance of foods that contains the allergen. Food allergen information on food label is therefore an important tool for susceptible individuals to identify ingredients that they need to avoid.

Our local regulation is in line with international standards i.e. Codex standards that the eight specific foods/ food ingredients which cause the most

最嚴重反應和大部分食物過敏個案的食物／食物配料，規定預先包裝食物如含有這八種致敏物，必須在標籤上清楚標示。

預防性的警告字句

除了強制性的標示外，製造商往往採用“可能含有微量XXX”或“生產此食品的廠房亦處理XXX”等字句，提示消費者食品在生產過程中有可能無意摻雜了少量致敏物。舉例來說，食品A的生產配方本不包括花生，但因與含有花生的產品B共用廠房，結果食品A可能含有微量花生，對花生過敏的人士食用構成風險。

不過，業界人士不得以這些預防性的警告字句為由逃避採取一切合理預防措施及盡一切應盡的努力以預防致敏物交叉污染的責任。任意濫加有關字句，一方面會無端剝奪了過敏人士的食物選擇，另一方面也有可能削弱業界的公信力，令過敏人士冒險進食載有有關警告字句的產品。

給食物過敏人士或其照顧者的建議

- 細閱食物標籤上的致敏物資料，了解食物有否會令自己過敏的成分。
- 避免食用會讓自己過敏的食物或食物配料。
- 下載食物安全流動應用程式及／或訂閱食物安全電子訊息，自動獲取食物安全中心發布的食物致敏物警告。

給業界的建議

- 確保預先包裝食物的標籤上載有符合本港規例要求的致敏物資料。
- 盡力標明產品存在或可能存在的致敏物，並預防產品無意中被其他產品的致敏物交叉污染。
- 只有在採取了一切合理預防措施及盡了一切應盡的努力後，才使用預防性的警告字句。

severe reactions and most cases of food allergies must be clearly shown on the label of all prepacked foods when they, or any ingredients made from them are used.

Precautionary Warning Statements

Apart from mandatory label, manufacturers often use phrases such as “may contain traces of XXX, “produced in a factory where XXX is also handled” to show that there could be small amounts of allergen(s) which may have entered the product inadvertently during the production process. For instance, recipe of Product A does not intentionally include peanuts but it is produced on the same premises as Product B that contains peanuts. Product A may eventually contain traces of peanut and may thus pose an allergen risk to consumers who are allergic to peanuts.

However, these precautionary warning statements should not be used to replace all reasonable precautions and all due diligence exercised by the trade to prevent cross-contamination of allergen(s). Unwarranted use of these statements can result in unnecessary elimination of food choice for allergic consumers and may also reduce the credibility of the trade, causing vulnerable consumers to take risks with these foods.

Advice to Individuals Suffered from Food Allergy or Their Care Takers

- Read food allergen information on food labels to identify if any food or food ingredients of your allergic concern are present in the food.
- Eliminate the food or food ingredients, which you are allergic to, from the diet.
- Download [Food Safety app](#) and/or subscribe [e-News](#) to get automatic notification of food allergy alerts issued by the Centre for Food Safety.

Advice to the Trade

- Ensure food labels including allergen labels on prepackaged food comply with local regulatory requirements.
- Practise due diligence in labelling the presence or potential presence of allergens in products, and preventing unintentional cross-contamination of products with allergens present in other manufactured products.
- Use precautionary warning statements only after exercising all reasonable precautions and all due diligence.

食物事故點滴 Food Incident Highlight

月餅中的黃曲霉毒素

澳門政府早前公布本港出產某牌子月餅的黃曲霉毒素含量超出澳門新採納的標準。食物安全中心為此加抽涉事品牌的月餅樣本作黃曲霉毒素測試，沒有樣本超出本港及澳門的限值。

黃曲霉毒素是由黃曲霉菌在適當的溫度和濕度條件下產生的一組有毒化合物，較常見於花生、木本堅果和粟米等食物。黃曲霉毒素是一種毒性強烈的致癌物質，可能會引致肝癌。由於月餅是節日食品，在一般食用情況下，食用黃曲霉毒素含量不超標的月餅所增加的食物安全風險不高。

業界應確保食物原材料和產品符合安全標準，並妥善貯存食物。市民則應保持均衡及多元化飲食，以免因只偏食某幾類食物而攝入過量黃曲霉毒素。另外，食物如發霉便應棄掉。

Aflatoxins in Mooncakes

The Centre for Food Safety (CFS) has conducted further testing on a local brand of mooncakes after the Macau authorities announced that aflatoxins detected in mooncake samples of the brand exceeded Macau's recently adopted standard. None of the local samples tested by CFS had aflatoxin levels exceeded the local or Macau limits.

Aflatoxins are a group of toxic compounds produced by some moulds of the Aspergillus species under favourable temperature and humidity. They are more commonly found in peanuts, tree nuts, corn, etc. Aflatoxins are potent human carcinogens, and are associated with liver cancer. As mooncakes are festive food, usual consumption of mooncakes containing aflatoxins at regulatory levels is unlikely to increase the food safety risk significantly.

The trade should ensure food ingredients and products comply with safety standards and maintain good storage conditions. The public is advised to maintain a balanced and varied diet so as to avoid excessive exposure to aflatoxins from a small range of food items. Discard foods that look mouldy.

小龍蝦含可致橫紋肌溶解症的毒素

最近，衛生署衛生防護中心報告兩宗在深圳進食煮熟的小龍蝦後出現橫紋肌溶解症的個案。橫紋肌溶解症(骨骼肌纖維溶解)可引致腎臟受損和其他併發症。

中國內地和美國均曾錄得進食小龍蝦(中文學名“克氏原螯蝦”，拉丁學名“*Procambarus clarkii*”)引致橫紋肌溶解症的病例，估計是積聚在小龍蝦體內某種未知的耐熱毒素所致。

業界應：1)向受有關當局監管的養殖場及信譽良好的出口商採購鮮活小龍蝦；2)向已採用“食物安全重點控制(HACCP)”系統(或相若的食物安全系統)的加工企業採購小龍蝦製品；以及3)確保所出售或進口的食品適宜供人食用。消費者則應：1)把小龍蝦清洗乾淨，並徹底煮熟；2)向信譽良好和可靠的供應商購買新鮮的小龍蝦；以及3)避免過量進食小龍蝦，而且不要吃小龍蝦的頭和內臟。

Toxins in Crayfish Causing Rhabdomyolysis

Recently, the Centre for Health Protection of the Department of Health reported two cases of rhabdomyolysis after consuming cooked crayfish in Shenzhen. Rhabdomyolysis (breakdown of skeletal muscle fibres) may result in kidney damage and other complications.

Rhabdomyolysis linked to consumption of red swamp crayfish (*Procambarus clarkii*) has been reported in Mainland China and the United States. The possible cause is an unknown heat-stable toxin that accumulated in the crayfish.

Traders are advised to: 1) buy live crayfish from aquaculture farms that are regulated by the relevant authorities and reputable exporters; 2) purchase crayfish products from processing plants that have adopted HACCP (or equivalent food safety management systems); and 3) ensure the food sold/imported are fit for human consumption. Consumers are advised to: 1) clean crayfish before cooking and cook thoroughly; 2) purchase fresh crayfish from reputable and reliable suppliers; and 3) not overindulge in crayfish and not consume its head and internal organs.