# Update on Avian Influenza

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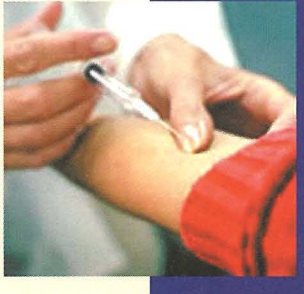
*H5N1 avian influenza virus is known to have infected 244 people in 10 countries during the past 3 years, killing 143 of them. WHO recommends that in patients with confirmed or strongly suspected H5N1 infection, doctors should give oseltamivir as soon as possible. The recommendation applies to adults, including pregnant women and children.*

Clinicians have had little experience treating H5N1 in pregnant women, as animal studies don't indicate direct or indirect harmful effects on pregnancy or fetal development. Oseltamivir should not be used during pregnancy unless the potential benefit to the mother justifies the potential risk to the fetus. In the face of a deadly disease such as H5N1, the 'risk of oseltamivir in pregnancy would become insignificant'.



Genetic studies have shown the existence of 4 strains of H5N1 virus now circulating in South Asia and beyond. The existence of 4 distinguishable strains may have implications for the design and production of a vaccine for control of animal (and human) disease, if the genetic variation of the 4 strains involves changes in the antigenic properties of the haemagglutinin and neuraminidase surface proteins of the virus.

H5N1 avian influenza virus has become more complex, probably as a result of the antiviral drug oseltamivir, and recently, this is causing complications in detecting it in the laboratory. The drug is only able to prevent the virus from replicating and does not destroy it. However, it means that little of the virus is excreted into that part of the respiratory tract where specimens are taken for testing.

Should the world be caught without an effective vaccine or antiviral treatment for an avian flu pandemic, a last-ditch option may be to inoculate the sick with antibodies from the blood of those who are able to recover from the disease, according to a review of studies published after the 1918 Spanish influenza pandemic.

Current manufacturing capacity could vaccinate less than 5 per cent of the world's population in the event of a pandemic, making alternative treatments extremely desirable. One method known to work in other viral diseases such as rabies and measles is to

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# Diagnostic Imaging of Acute Appendicitis

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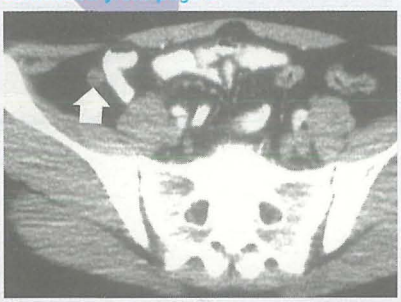

**Figure 6:** *CT scan showing a normal appendix in cross-section (arrow).*

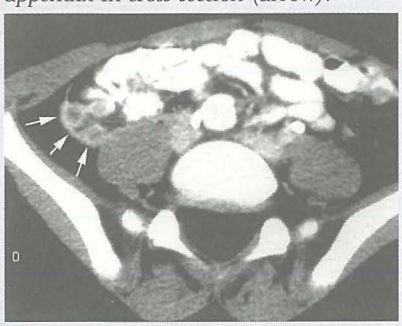

**Figure 7:** *CT scan showing an inflamed appendix in cross-section measuring <7mm in diameter (arrows).*

Colour Doppler US of nonperforated appendicitis typically demonstrates peripheral wall hyperaemia, reflecting inflammatory hyperperfusion (Figure 6). Colour flow may also be absent in gangrenous appendicitis.

Helical CT has been shown to be a highly sensitive and specific modality for the diagnosis of acute appendicitis in children and adults. The reported sensitivity of CT for the diagnosis of acute appendicitis has ranged from 87% to 100%, and the specificity has ranged from 89% to 98%. The advantages of CT over US are reduced operator dependence, superior contrast sensitivity, and the capability for viewing the entire range of air, soft-tissue, fat, and bone attenuation values inherent to the abdomen.

The normal appendix can be identified at CT. The appendix arises from the posteromedial aspect of the caecum, approximately 1–2 cm below the ileocaecal junction (Figure 7). The relationship of the base of the appendix to the caecum is constant, but the free end of the appendix is mobile and can be directed medially, caudally, laterally, or retrocaecally. The maximal normal appendiceal diameter measured on CT is quite variable; although it usually is 7 mm or less, it may occasionally be larger.

CT features of acute appendicitis include a distended appendix greater than 7 mm in maximal diameter, appendiceal wall thickening and enhancement an appendicolith (Figure 8), pericaecal fat stranding, adjacent bowel wall thickening, free peritoneal fluid, mesenteric lymphadenopathy, intraperitoneal phlegmon, or abscess.

Clinical studies have shown a significant decrease in the negative appendectomy rate in children with suspected acute appendicitis who underwent CT before surgery compared with those who did not (7% vs 13%). A decrease in the perforation rate has been observed in patients who underwent CT compared with those who did not (15% vs 23%). Another study showed that the number of days required for inpatient observation prior to surgery is reduced by CT assessment, therefore reducing the cost of care per patient.

In summary, both graded-compression US and helical CT have been shown to have potential utility in the evaluation of suspected acute appendicitis. Both US and CT have there advantages and disadvantages, with CT being more accurate, particularly in obese patients.

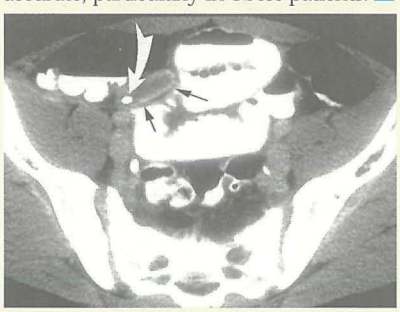

**Figure 8:** *CT scan showing an inflamed appendix in longitudinal section (straight arrows) which contains an appendicolith (curved arrow).*

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transfer the blood of a recovered patient to a sick one, giving the latter antibodies against the pathogen.

Transfusions were also tried in the 1918 flu pandemic but hadn't been studied extensively. Analysis done suggests that patients with Spanish influenza pneumonia who received transfusion may have experienced a clinically important reduction in the risk for death and improvements in clinical signs and symptoms[1]

## Update on Seasonal Vaccine

Seasonal vaccination should start in October. The government this year is offering the vaccine free of charge to the following categories:

- All health care professionals working in governmental hospitals, health centers and governmental institutions/homes;
- All persons residing in an institution;
- All persons aged 55 years and over;
- All persons of all ages suffering from: chronic respiratory disease, chronic heart disease, chronic liver disease, chronic kidney disease, diabetes mellitus, any chronic immunodeficiency state including AIDS;
- All essential workers including police, armed forces, civil protection, security services, Food and Veterinary Regulation Division, cleansing department, veterinary surgeons and their assistants, cargo handlers and custom officials involved in border control;
- Other workers at high risk: poultry farmers and their workers, Corradino staff and inmates.

**Encourage your patients to take the seasonal vaccine.**

## References

1. Luke TC, Kilbane EM, Jackson JL, Hoffman SL. Meta-analysis: convalescent blood products for Spanish influenza pneumonia: a future H5N1 treatment ? *Ann Intern Med* 2006; 145(8).