Update on the 2019-nCoV

Date: Monday, 27th January 2020
Sources: Several, see end of text.

ECDC. Risk assessment: outbreak of acute respiratory syndrome associated with a novel coronavirus, China; First cases imported in the EU/EEA; second update (1)

On the basis of the information currently available, ECDC considers that:
1. the potential impact of 2019-nCoV outbreaks is high;
2. further global spread is likely;
3. there is currently a moderate likelihood of infection for EU/EEA citizens residing in or visiting Wuhan, Hubei province, China;
4. there is a high likelihood of further case importation into countries with the greatest volume of people who have travelled from Wuhan, Hubei Province (i.e. countries in Asia);
5. there is a moderate likelihood of further case importation into EU/EEA countries;
6. adherence to appropriate infection prevention and control practices, particularly in healthcare settings in EU/EEA countries with direct links to Hubei, means that the likelihood of a case detected in the EU resulting in secondary cases within the EU/EEA is low;
7. the impact of the late detection of an imported case in an EU/EEA country without the application of appropriate infection prevention and control measures would be high, therefore in such a scenario the risk of secondary transmission in the community setting is estimated to be very high.

Transmission before symptoms appear
China’s National Health Commission (NHC) said on Sunday (26th January) that the new coronavirus is contagious even in its incubation period, which lasts up to 14 days, and that the virus’ ability to spread is getting stronger (2). However, the news report stated an observation for a single cluster as its basis, and there has been very little secondary transmission in travellers outside China.

Imperial College: 3rd estimate
We estimate that, on average, each case infected 2.6 (uncertainty range: 1.5-3.5) other people until 18th January 2020. This implies that control measures need to block well over 60% of transmission to be effective in controlling the outbreak (3). The modelling also forecast up to 20,000 cases before the end of the month.

Number of cases per the 27th January
The South China Morning Post reports a total of 2744 cases in China with 56 fatal outcomes and 80 cases outside China in Asia, US and Canada and Europe (4).
China quarantine cities
Authorities banned transport links from Wuhan, the capital of Hubei province, on Thursday morning, suspending buses, subways, ferries, and shutting the airport and train stations to outgoing passengers. Later in the day, the nearby cities of Huanggang and Ezhou announced similar measures. Travel restrictions were also placed on the smaller cities of Chibi and Zhijiang (5). A total of 17 cities are now under lockdown, with several areas banning long-distance bus services, including Beijing, Shanghai and the eastern province of Shandong, home to 200 million people (6). On Monday, Chongqing municipality, which has a population of 30 million, adopted similar measures (6).

Comparison between SARS, MERS, Ebola and others
A perspective in NEJM the 24th January points out that 58% of MER cases and 70% of SARS cases were nosocomial (7). The mortality of the pandemic H1N1 was 0.02 – 0.4%, SARS-CoV 9.5% and MERS-CoV 34.4%.

Where does the virus comes from?
In an interview with the EcoHealth Alliance President Peter Daszak, he gives a review of the coronavirus, CoV. More than 50 different CoVs are found in bats, which excrete the virus in faeces (8). The present virus has an 80% homology to bat CoV. A preliminary analysis of 27 genomes of the 2019-nCoV has been posted on-line (8). The genetic data is highly suggestive of a single-point introduction into the human population followed by sustained human-to-human transmission (8).

Prepublication sharing of manuscripts
Under the leadership of Jeremy Farrar from the Wellcome Trust, an initiative has been agreed with major journals to share manuscripts with WHO before review, as critical data needed for proper assessment of the situation has been waiting for publication. It urges scientists to share data relevant for public health without delay.

Commercial diagnostic kit
The Chinese company LifeRiver BioTech has announced a real-time PCR kit: http://www.liferiverbiotech.com/. Many other companies are developing diagnostic methods also. The WHO, under its action plan for preparedness is inventorying initial performance characteristics to prioritize clinical validation efforts. Assays with background validation are listed on a dedicated section of the website (9). Control reagents and a specificity panel can be obtained from the Europe Virus Archive – Global (10).

New in the literature in case you missed it
ProMED. Novel coronavirus (18): China (HU) animal reservoir 20200125.6915411 https://promedmail.org/promed-post/?id=20200125.6915411


Sources


EITaF Comments

The ECDC statement on high risk of community tx is not really supported, it is precautionary (Ref. #1).

The 2019-nCoV is different from SARS and MERS.
As highlighted in the perspective in the NEJM (Ref. 7), over 50% of the MERS and SARS cases were nosocomial, whereas the 2019-nCoV is as far as we know is mainly transmitted in the community. This means that control is much more difficult.
The case numbers are much higher than with SARS where the peak number reported in one week was 140 cases.
The mortality, as reported at the moment, is around 2% in the elderly, with those with co-morbidities like diabetes and renal impairment having a higher risk. This is a mortality that is higher than influenza, but it is important not to compare an upper respiratory tract infection, like most influenza infections, with a viral pneumonia.

The rapid increase of case numbers could be related to delayed reporting of the samples that were obtained earlier.
Travel to the cities where the Chinese authorities have imposed quarantine should be avoided. The quarantine means that access and departure is strictly controlled.

The export of a limited number of cases to other countries is not a surprise given that people have been infected, but are asymptomatic in the end of the incubation period. Most countries have by now implemented different screening procedures in airports for travellers from China, especially advising to seek medical attention if symptoms develop.

Physicians everywhere should ask all patients with cough and fever, and especially with pneumonia “have you been in China”?

Over the past week, there has been widespread speculation (twitter) about a possible snake origin based on a publication in J Med Virol., but here is no hard evidence for this.

**What we do not know**
The number of people with milder symptoms are not known and the 20,000 cases estimated by Imperial College could be associated with this?

We are in the middle of the influenza season and presumably a proportion of people contacting the health service with cough and fever have influenza A or B, and we presume that influenza is included in the diagnostic tests. We shouldn’t forget the main respiratory infection is influenza in all countries except certain areas of China.

**Diagnostics**
Countries with limited resources are supposed to receive reagents from the WHO and being assigned to a reference centre.

Eskild Petersen, Marion Koopmans, Antonino Di Caro, Nicola Petrosillo
ESCMID Emerging Infections Task Force, EITaF