ABSTRACTS

1. KILLER COLD VIRUSES – UDATE ON EMERGING ADENOVIRUS AN THREATS

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First recognized in the 1950s, human adenoviruses (Ads) cause a wide spectrum of clinical signs and symptoms. Generally, Ad infections are mild and transient events without serious sequelae. However, among the immunocompromised, Ad infection can lead to severe multisystem disease and death. Among the 52 recognized human strains Ad3, Ad7, and Ad21 have been associated with more severe disease. Novel Ad strains have frequently been implicated in respiratory, conjunctival, and enteric outbreaks and have rapidly spread across wide geographical regions.

During 2005, 4 different geographical regions of the United States reported unusually severe illnesses due to a previously rare Ad14 strain. Patients suffered community-based Ad pneumonia, often required hospitalization, and at least 10 died. The etiological virus in these outbreaks was found to be a novel strain and classified as Ad14a. This Ad14a strain has now spread to at least 13 US states, explaining a high proportion of adenovirus-associated infections in some regions, caused at least one noscomial outbreak, caused widespread clinical disease in a US military camp, and is responsible for numerous hospitalizations and deaths. In this presentation the author will discuss these recent outbreaks, review Ad epidemiology, Ad vaccines, antivirals against Ad, Ad diagnostics, and recommend interventions against Ad outbreaks.

2. CLINICAL FEATURE OF THE PANDEMIC A(H1N1) V INFLUENZA

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On June 11, 2009, the world health organization officially raised the pandemic alert level to phase 6 after the first detection of Novel influenza A (H1N1) in Mexico on April 26, 2009. 24-50% of patients with pandemic influenza had asthma, 36% - Chronic obstructive pulmonary disease (NEW ENGLAND JOURNAL of MEDICINE 2010-05-10).On October 12,2009 Novel influenza A (H1N1) virus was first detected in our country and now reported 1384 confirmed cases, 30 deaths. Novel influenza A (H1N1) virus is more severe , progressive and high mortality rate than seasonal flu.

The objective was to determine the treatment result and the clinical characteristic of influenza A (H1N1) virus infection, which registered in Ulaanbaatar city. We analysed 100 patients ambulatory cards with influenza A (H1N1)v infection and 367 hystory patients., who treated in National Centre for Communicable Diseases since October 12, 2009 until February 15, 2010. Then updated some statistical information by program Windows Excel ,SPSS1.

Result: 0.5% of patients were of 0-11months children, 10% 1-4 years, 7.2% - 5-9 years, 5.4% - 10-14 years, 10.5% - 15-19 years, 23% - 20-24, 12% - 25-29, 6.2% -30-34, 7.5% 35-39 , 5% - 40-44 , 5.2% 45-49, 5% 50-54, 1.0% 55-59, 1.0% 60-64, 0.5% above 65 years. 54 % of patients were male and 46% - female. 40% of patients had positive result of real-time RT-PCR, 60- negative. The most common clinical symptoms were fever (92.4%), cough (87.7%) ,headache (50.2%) , chest pain (42%).In addition , 12.1% of patients had diarrhea, and 10.9% had vomiting. Laboratorial findings included elevated erythrocyte sedimentation rate (18%) ,leukocytosis (4%) , lymphocytosis (5.4%), and elevated AST levels (9.5%). Major risk factors were obesity (4.6%) and chronic pulmonary diseases (7%) and asthma (8.5%). 32% of patients were pneumonia, 6% of were respiratory failure and 2.2% of were distress syndrome.

Conclusion:

1. Mostly affected age was 1-4 and 15-29 years of novel influenza A (H1N1) virus infection.

2. the most common presenting symptoms were fever (92.4% of patients), cough (87.7%), headache (50.2%) and chest pain (42%).

3. off hospitalized patients with 8.5% had asthma, 7% had chronic obstructive pulmonary disease

3. INFLUENZA SURVEILLANCE AND RESEARCH AT AFRIMS

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The Armed Forces Research Institute of Medical Sciences (AFRIMS) has established 45 influenza sentinel sites in South and Southeast Asia. This includes Thailand, Nepal, Philippines, and Bhutan with an additional 9 countries represented by US Embassies. In addition,

AFRIMS is involved in various influenza research projects. The household influenza transmission study (HITS) is a randomized controlled trial of the effect of hand washing and face masks on transmission. This study is also looking at the presence of influenza virus on fomites and the accuracy of diagnostic kits for pandemic and seasonal influenza. In northern Thailand AFRIMS is engaged in research on zoonotic influenza. In Bangkok the in vitro cross-reactivity with avian influenza H5N1 virus in volunteers vaccinated with a prime boost regimen of seasonal influenza vaccines.

4. DESCRIPTION OF FANAL OUTCOMES FROM 2009 H1N1 INFLUENZA IN MONGOLIA

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Mongolian Field Epidemiology Training Pro**Background:** From the studies conducted in other countries, the virus mostly affects younger population; however, most of the deaths from influenza were in under age 2 and over age 65.

We aimed to describe fatal cases occurred in Mongolia from 2009 H1N1 Influenza and it was expected to contribute to the effective prevention and control measures for next possible waves of 2009 H1N1 influenza.

Methods: We selected fatal cases that are hospitalized and laboratory confirmed during the course of illness or postmortem examination confirmation as the contributing cause of death with 2009 H1N1 influenza. We collected data from medical files using questionnaire. For each case, we collected socio-demographic information and clinical characteristics including signs, diagnosis and treatment history. We conducted descriptive statistics with frequency analysis for categorical variables and median and inter-quartile ranges for continuous variables. The differences in characteristics according to outcomes were tested using chi-square test for categorical variables. A p-value under 0.05 was considered statistically significant. Data was analyzed using EpiInfo 3.

Results:
Socio-demographic findings
There were 29 hospitalized deaths from 2009 H1N1 influenza registered between Oct 22, 2009 and Jan 26, 2010 in Mongolia. Most of deaths (21/72.4%) confirmed in the month of Nov 2009.

Median age of fatal cases was 35.0 (5 months to 61 years). Children under 5 (20.7%) and pregnant women (24.1%) were over presented. Age specific mortality rate was highest in age group of 55-59 years followed by children under 5 and among those of 35-44 years. Lowest mortality rate was in 5-14 years and with no deaths in age of over 65. Although, female were over presented (58.6%) than males (41.4%), this difference was not statistically significant (x^2=0.6, p=0.4). Permanent residency of 16 (55.2%) were soum, 11 (37.9) cases had lived in the city and 2 (6.9%) were from aimag center. Of all cases, 19 (65.5%) were from ger district and 10 (34.5%) were from apartment district. Most of cases (43.4%) had high school education and 8.6% had primary school education, whereas 26% had technical college education and 17.2% cases had university education. Majority of cases (41.4%) were not employed.

Clinical characteristics
Time from onset of symptom to initial presentation for health care was 3 days (range 0 – 14 days) and time from onset of symptom to hospitalization was 5 days (0 – 20 days). Deaths occurred in 9 days (2 – 25 days) after hospitalization.

Of the 29 cases, 18 (62.1%) cases had at least one underlying medical condition and most common medical condition was chronic kidney disease (51.7%). All cases (29/100%) had complications, where pneumonic complications presented in 27 (93.1%) cases with respiratory failure in 27 (93.1%) cases and with ARDS in 15 (51.7%) cases. Chest X-ray of 20 (68.9%) cases diagnosed infiltrative changes in lung. In 18 (62%) cases Tamiflu was given orally, but none of the cases received antiviral within 48 hours of onset of symptom. Off all cases, 24 (88.9%) cases were required oxygen therapy and 10 (34.4%) cases were intubated.

Conclusions: In this series, the highest mortality rate was found in age group of 55-59 years and children under 5, and no mortality was observed in 5-14 years and over 65. Soum residents and people from ger area were prevalent and over half of cases were not employed.

Cases were hospitalized in 5 days in our study. This interval was 2 days for severe cases in France. More than a half of cases had at least one underlying medical condition and most common medical condition was chronic kidney disease presented in half of cases. Chronic respiratory illness was most prevalent underlying condition in studies of other countries.

Children under 5 and pregnant women were over presented. Studies of other countries confirm pregnancy as a risk factor for complications. Similar conclusion stands for infants.

Not all cases were given antiviral and none received antiviral less than 48 hours after the onset of symptoms. As already suggested by data from the US, it is possible that delayed initiation of antiviral therapy many have contributed to increased severity of illness.

-д нь тус тус   илрэв. Шинжилгээнд улаан эсийн тунах хурд ихсэх 18%, цагаан эсийн тоо ихсэх 4%, тунгалаг эсийн тоо ихсэх 5,4%, трансаминазийн идэвхи ихсэх 9,5% -д нь ажиглагдав. Судалгаагаар томуугийн A/H1N1/v халдвараар өвчлөгсдийн дунд багтраа өвчтэй хүмүүс 8,5%, зүрх судасны архаг өвчтэй хүмүүс 7.3%,уушигны архаг өвчтэй хүмүүс 7%, бөөрний архаг үрэвсэлтэй хүмүүс 6,4% элэгний архаг үрэвсэлтэй хүмүүс 4.6%, таргалалттай хүмүүс 4.6%, тус тус тохиолдсон. Өвчлөгсдийн нь 32% нь уушигны хатгалгаагаар, 6% нь амьсгалийн дутагдлаар, 2,2% нь амьсгалын цочмог дистресс хам шинжээр хүндэрсэн.

Дүгнэлт:

1.Томуугийн A/H1N1/v-ийн халдвараар 1-4 насны хүүхдүүд болон 15-29 насны залуучууд зонхилон өвчилж байна.

2.Эмнэлзүйн хувьд A/H1N1/v –ийн халдварын үед халуурах (92,4%), ханиах (87,7%), цээжээр өвдөх (42%), толгой өвдөх (36%) зэрэг шинжүүд нь давамгайлан илэрч байна.

3.Судалгаагаар өвчлөгсдийн 8.5% нь багтраа өвчтэй , 7% нь уушигны архаг өвчтэй , 7,3% нь зүрх судасны архаг өвчтэй байв.

3. ЗЭВСЭГТ ХҮЧНИЙ АНАГААХ УХААНЫ ЭРДЭМ ШИНШИЛГЭЭНИЙ ХҮРЭЭЛЭН ДЭХ ТОМУУГИЙН ТАНДАЛТЫН СУДАЛГАА

Р. Гиббонс
АНУ, Айова, Флоридагийн Их сургуулийн Нийгмийн эрүүл мэндийн болон Эрүүл мэндийн мэргэжилтэний коллеж

Зэвсэгт хүчний Анагаах Ухааны Эрдэм шинжилгээний хүрээлэн (Armed Forces Research Institute of Medical Sciences -AFRIMS) нь Өмнөд болон Зүүн Өмнөд Азийн орнуудад томуугийн харуулдан тандалтын 45 нэгжийг зохион байгуулсан. Эдгээрээс Тайланд, Балба, Филиппин, Бутан зэрэг 9 оронд АНУ-ын Элчин Сайдын төлөөлөгчийн газрыг хамтад нь байгуулсан. Түүнчлэн Зэвсэгт хүчний Анагаах Ухааны Эрдэм шинжилгээний хүрээлэн нь томуугийн эрдэм шинжилгээний олон тооны төсөлт судалгаанд оролцдог. Халдварын тархалтанд гар угаах болон амны хаалтын ач холбогдолыг тохиолдол-хяналтын туршилтын (randomized controlled trial) аргаар тодорхойлж гэр бүлийн доторхи томуугийн тархалтыг судлаа. Түүнчлэн энэхүү судалгаагаар томуугийн вирүс фомит (fomites)-уудад байгаа эсэхийг, улирлын

болон цартахлын томууг оношлох оношлуурын оновчтой эсэхийг тодорхойлох зэрэг судалгааг хийсэн. Зэвсэгт хүчний Анагаах Ухааны Эрдэм шинжилгээний хүрээлэн нь Хойд Тайландад зоонозын томуугийн судалгааг хийхийн хамт Бангкокт улирлын томуугийн вакцинжуулалтанд сайн дураар хамрагдсан хүмүүст шувууны томуугийн H5N1 вирүстэй сөөлжих урвал илэрч байгаа эсэхийг in vitro судалж үзсэн. (Сүүлийн өгүүлбэрийн англи хувилбар нь ойлгомж муутай буюу миний бодлоор үйл үггүй байгаа учир ингэж орчуулбал дээр юм шиг харагдлаа. Үүнийг хянаж байгаа хүн дахин нэг нягтална уу   In Bangkok the in vitro cross-reactivity with avian influenza H5N1 virus in volunteers vaccinated with a prime boost regimen of seasonal influenza vaccines).

4. МОНГОЛ УЛСАД ТОМУУГИЙН H1N1 ВИРҮСИЙН ХАЛДВАРААР НАС БАРСАН ТОХИОЛДЛУУДАД ХИЙСЭН БИЧИГЛЭЛ СУДАЛГАА

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Оршил: Томуугийн шинэ вирүсийн халдвараар ихэвчлэн залуу насныхан өвчилж байгаа боловч ихэнхи нас баралт нь 2 хүртэлх насны хүүхэд болон 65-аас дээш насныханд бүртгэгджээ хэмээн бусад оронд хийгдсэн судалгаанд бичигдсэн байна. Бид Монгол улсад томуугийн цар тахлын халдвараар нас барсан тохиолдлуудад бичиглэл судалгаа хийж, цар тахлын халдварын дараагийн дэгдэлтээс урьдчилан сэргийлэх, хяналт тавих үйл ажиллагааг үр дүнтэй болгоход хувь нэмрээ оруулах зорилго тавьсан юм.

Арга зүй: Эмнэлэгт хэвтсэн, эмчилгээний явцад лабораторийн шинжилгээгээр томуугийн H1N1 вирүсийн халдвараар халдварлагдсан болох нь батлагдсан эсвэл задлан шинжилгээгээр томуугийн цар тахлын халдварын хүндрэлээр нас барсан болохыг баталсан тохиолдлуудыг сонгон судалгаанд хамруулсан. Тохиолдол бүрийн өвчний түүхээс нийгэм-эдийн засгийн талаархи мэдээлэл, эмнэлзүйн шинж тэмдэг, хийгдсэн шинжилгээ, эмчилгээний холбогдолтой мэдээг урьдчилан бэлтгэсэн асуумжийн дагуу цуглуулав. Мэдээг EpiInfo 3 программд оруулан, ангилсан хувьсагчийн давтамж, үргэлжилсэн хувьсагчийн голчын утгыг бодов. Ангилсан хувьсагчийн үр дүнгийн ялгааг Хи-квадратын аргаар шалгаж, P тоо 0.05-с бага тохиолдолд статистикийн үнэн магадтай гэж тооцсон болно.

Үр дүн: