

Community & Hospital Letter

Mystery Disease Still Baffles

In 1917, Baron Constantin von Economo described the first case of mystery illness that still baffles medical science today despite the fact there are still a few persons affected by the disease who remain alive. His description was that of a “sleeping sickness” with somnolence and stupor and the later onset of “shaking palsy”. This sleepy sickness was later called von Economo’s disease, as well as encephalitis lethargica.

Shortly after von Economo’s description of this new disease similar cases began to be recognized around the world. In North America, the disease was first recognized in the northeastern states and New York City soon emerged as the focal point for the study of the North American epidemics (Trans Studies College Physicians Philadelphia 24:63, 2002). Worldwide the incidence of the disease peaked in 1924 and then petered out with few cases by the end of the decade.

In North America, the disease was renamed epidemic encephalitis and was studied intensively from 1919 through 1939. By the beginning of World War II, however, investigation of the disease was all but abandoned. Yet, during the 1920s and 1930s, 1-3% of patients admitted each year to Philadelphia Orthopaedic Hospital, the oldest neurological hospital in the country, were suffering

from the disease or its sequelae.

Very few patients died in hospital, despite the fact the disease’s case fatality rate was estimated between 10% and 30%, mainly due to respiratory problems. About a third of patients recovered. Many of the rest remained in semi-comatose states and were committed to asylums or special hospitals. No cure emerged, so the surviving patients (estimated between 100,000 and 200,000 worldwide) stayed in care all of their lives. Interest in these patients was revived in 1960 when some were treated with levodopa which temporarily allowed them to walk and talk haltingly. This was described in neurologist Oliver Sachs’ book, *Awakenings*, which was later made into a film with the same name.

The cause of encephalitis lethargica has never been determined although the 1918 pandemic influenza has been the primary suspect (Lancet 1982 Oct 16;2(8303):860). One criticism of this theory is that the disease condition was described in 1917 before the accepted date of the onset of the influenza epidemic. However, that date may be incorrect since influenza cases in the army camps of northern France in the winter of 1916-1917 had all the hallmarks of the great pandemic strain (Lancet Infect Dis 2:111, 2002). The use of

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polymerase chain reaction (PCR) techniques on archived brain tissues from encephalitis lethargica victims and from a case who died in 2002, however, failed to detect evidence of influenza virus (J Neuropathol Exp Neurol 60:696, 2001; Virchows Arch 442:591, 2003; New Scientist 10/18/03:35).

Yet, if the 1918 influenza was associated with the onset of encephalitis lethargica, why there were no similar outbreaks of neurologic disease following the Asian flu pandemics of 1957 and 1968? After all, there are reports of a neurologic condition called “nona” that followed the Russian flu of 1889. Perhaps it had something to do with the genetic makeup of the respective epidemic viruses. Still, if there is an association with influenza and encephalitis lethargica might not sporadic cases still occur today? Cases of neurologic illness compatible with encephalitis lethargica, in fact,

have been described in recent years, but attempts to establish influenza and herpes as the etiology of the disease have been negative (J Neurol Neurosurg Psychiatry 44:670, 1981; J Neurol Neurosurg Psychiatry 47:1049, 1984; J Neurol Neurosurg Psychiatry 52:800, 1989). And, more recent suggestions that West Nile virus may be responsible have yet to be tested (New Scientist 10/18/03:34).

Public health authorities have been planning for how to respond to the next influenza pandemic. Given the association of encephalitis lethargica with the 1918 pandemic (and despite the lack of confirmatory evidence), it would be prudent to consider the possibility of a global outbreak of encephalitis lethargica about 12 months following the flu pandemic.

Suicide in Kansas City

Suicide is the 8th leading cause of death in the United States. Although the US age-adjusted suicide mortality rate for men has changed very little over the past 3 decades, national mortality data indicate that the rate has declined fairly consistently among women, at an average rate of 2.25% per year between 1970 and 1997 (Am J Public Health 92:1181, 2002). According to the Kansas City Health Department’s *Community Health Assessment 2003* report, in 2000, suicide was the 9th leading cause of among whites, but was not among the top 10 causes of death for other racial/ethnic groups. Among the top 10 causes of death by age group, suicide ranked 3rd for 15-24 y olds, 2nd for 25-34 y olds (behind homicide), and 4th for 35-44 y olds,

In 2003, the Office of Epidemiology & Community

Health Monitoring (OECHM) and the Office of the Jackson County Medical Examiner collaborated on a suicide study for Jackson County, the results of which have not yet been released to the public. Since the Medical Examiner also serves as the Medical Examiner for Cass, Clay, and Platte counties, that office provided OECHM with data on all suicides occurring within Kansas City proper between 1999 and 2002. A summary of that information is provided in this report.

A total of 265 suicides were documented among Kansas City residents over the 4 year period. White males accounted for 56.2% of the suicides, followed by black males (17.7%), white females (16.6%), Hispanic males (5.3%), black females (2.6%), and Hispanic females (0.8%). For 2 cases race/ethnicity was not listed

Suicides by Age Group		
	# Suicides	% of Total
11-14 y	5	1.9
15-24 y	48	18.1
25-34 y	46	17.4
35-44 y	61	23.0
45-54 y	36	13.6
55-64 y	22	8.3
65-74 y	18	6.8
≥75 y	29	7.2

Method of Suicide		
	Frequency	% of Total
Handgun	106	40.0
Hanging, strangulation & suffocation	60	22.8
Self-poisoning	36	13.6
Rifle, shotgun & larger firearm	26	10.9
Other firearms	17	6.4
Jumping	6	2.3
Drowning	5	1.9
All others	6	2.3

Method of Suicide by Sex and by Race, Kansas City, Missouri 1999-2002

Method	Percentage of Suicides			
	Male	Female	White	Black
Handgun	41.7	33.3	41.5	37.0
Hanging, strangulation, & suffocation	22.7	22.2	20.7	20.4
Self-poisoning	11.4	22.2	13.5	16.7
Rifle, shotgun, & larger firearm	13.3	1.9	13.0	5.6
Other firearms	6.2	7.4	6.2	9.3
Jumping	1.9	3.7	2.1	3.7
Drowning	1.4	3.7	1.0	5.6
All others	1.4	5.6	2.1	1.9

With the rate of suicide among males being 4.2 times that of females (24.7 per 100,000 vs 5.9 per 100,000, respectively), were there any differences in the choice of method of suicide by sex? Overall,

men tended to favor firearms while women chose other methods. And, if one simply looks at race, 61% of whites tended to chose firearms compared to only 52% of blacks.

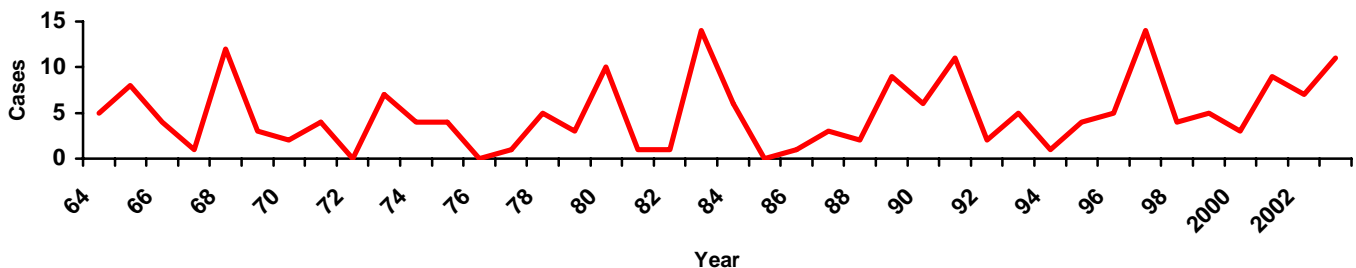
Eastern Equine Encephalitis

With all the concern over West Nile virus (8,393 human cases in 2003 as of 11/12/03 vs 4,156 in all of 2002), another important arbovirus, Eastern equine encephalitis (EEE) virus, infection in humans has not received much attention. As of the 7th of November, 11 cases and at least 4 deaths have been recorded by the Centers for Disease Control and Prevention (CDC).

This is not an infection commonly seen in the Midwest, although over the years, human cases have been reported from Wisconsin, Michigan and

Indiana, while infections in horses have been reported from several states. Missouri and Kansas have not reported a human infection with EEE ever since 1964 when CDC began keeping statistics on the disease, although Missouri did report a probable case in 2003; subsequent testing indicated that EEE was not the cause. Typically EEE infects horses and humans living in states along the Atlantic and Gulf Coasts, although occasional equine cases are recorded in other parts of the country.

Cases of Eastern Equine Encephalitis in Humans, US 1964-2003



EEE had been recognized as a horse disease since 1831, although the virus was first isolated from a horse in 1933. Then in 1938, EEE was established as a human pathogen with its recovery from a fatally infected infant in Massachusetts. Human illnesses have been considered sporadic events, although in 1959, 32 human cases were recorded

in New Jersey. Among humans there are no age or sex-specific risk factors and asymptomatic infections are rare. While symptoms can be mild flu-like illnesses to encephalitis, the case fatality rate is 35% (making it the most pathogenic mosquito-borne disease in the US) and 35% of the survivors have mild to severe neurologic deficits.

The CDC estimates that EEE infections cost \$21,000 for a transiently infected case to \$3 million for a severely affected person.

The fact that the primary transmission cycle of EEE (it is a bird-mosquito cycle) takes place in swampy areas where the human population is generally low in numbers, may be a major reason why the disease is infrequent in humans but relatively common among horses. Of the various mosquitoes capable of participating in the avian transmission cycle, it is *Culiseta melanura* that is the main vector. This species breeds in habitats with mucky, peat-containing soils. It feeds almost exclusively on

birds and other species of mosquitoes that feed on birds are the vectors of EEE virus to mammals. While EEE can kill infected birds, significant mortality events have only been documented among non-native birds, such as ring-necked pheasants and emus. Emus are of special concern for veterinarians since these birds are highly susceptible to EEE and the disease is usually fatal. The blood, feces and other body fluids of infected emus contain very high levels of virus making any procedures done with sick or dead birds extremely hazardous. The EEE vaccine used in horses, however, will protect emus from infection.

Hepatitis A & Green Onions

More than 500 customers of a Pennsylvania Chi-Chi's restaurant in October contracted hepatitis A most likely from eating green onions (scallions). Three individuals died from their infection. This was not the first hepatitis A outbreak this year associated with green onions. Other outbreaks were reported in September in Tennessee, Georgia and North Carolina. An earlier study by the Food & Drug Administration (FDA) found that green onions were more likely to be contaminated with shigella bacteria than any other

vegetable. This is because green onions stay low to the ground with the bulb below the ground and the shoots sticking up. If human or animal waste is used as fertilizer, or if contaminated water is used to irrigate the field, then bacteria or viruses can easily work their way down into the plant. Once contaminated, it is almost impossible to clean green onions because of the plant's many layers. Only thoroughly cooking green onions can ensure their safety. On the 18th of November, Taco Bell announced it would stop serving green onions.



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