

# Similarities between dermal rashes in Spanish flu and the 3rd pandemic of COVID-19

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Sir,

The Spanish flu pandemic of 1918, the deadliest in history, infected an estimated 500 million people worldwide—about one-third of the planet's population—and killed an estimated 20 million to 50 million victims, including some 675,000 Americans. The 1918 flu was first observed in Europe, the United States and parts of Asia before swiftly spreading around the world. At the time, there were no effective drugs or vaccines to treat this killer flu strain. Citizens were ordered to wear masks, schools, theaters and businesses were shuttered and bodies piled up in makeshift morgues before the virus ended its deadly global march [1].

Influenza, or flu, is a virus that attacks the respiratory system. The flu virus is highly contagious: When an infected person coughs, sneezes or talks, respiratory droplets are generated and transmitted into the air, and can then be inhaled by anyone nearby.

Additionally, a person who touches something with the virus on it and then touches his or her mouth, eyes or nose can become infected.

During the flu pandemic of 1918, the New York City health commissioner tried to slow the transmission of the flu by ordering businesses to open and close on staggered shifts to avoid overcrowding on the subways [2].

Flu outbreaks happen every year and vary in severity, depending in part on what type of virus is spreading. (Flu viruses can rapidly mutate).

In the United States, “flu season” generally runs from late fall into spring. In a typical year, more than 200,000

Americans are hospitalized for flu-related complications, and over the past three decades, there have been some 3,000 to 49,000 flu-related U.S. deaths annually, according to the Centers for Disease Control and Prevention.

Young children, people over age 65, pregnant women and people with certain medical conditions, such as asthma, diabetes or heart disease, face a higher risk of flu-related complications, including pneumonia, ear and sinus infections and bronchitis.

A flu pandemic, such as the one in 1918, occurs when an especially virulent new influenza strain for which there's little or no immunity appears and spreads quickly from person to person around the globe [1-3].

The first wave of the 1918 pandemic occurred in the spring and was generally mild. The sick, who experienced such typical flu symptoms as chills, fever and fatigue, usually recovered after several days, and the number of reported deaths was low.

However, a second, highly contagious wave of influenza appeared with a vengeance in the fall of that same year. Victims died within hours or days of developing symptoms, their skin turning blue and their lungs filling with fluid that caused them to suffocate. In just one year, 1918, the average life expectancy in America plummeted by a dozen years.

It's unknown exactly where the particular strain of influenza that caused the pandemic came from; however, the 1918 flu was first observed in Europe, America and areas of Asia before spreading to almost every other part of the planet within a matter of months.

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Despite the fact that the 1918 flu wasn't isolated to one place, it became known around the world as the Spanish flu, as Spain was hit hard by the disease and was not subject to the wartime news blackouts that affected other European countries. (Even Spain's king, Alfonso XIII, reportedly contracted the flu.)

One unusual aspect of the 1918 flu was that it struck down many previously healthy, young people—a group normally resistant to this type of infectious illness—including a number of World War I servicemen.

In fact, more U.S. soldiers died from the 1918 flu than were killed in battle during the war. Forty percent of the U.S. Navy was hit with the flu, while 36 percent of the Army became ill, and troops moving around the world in crowded ships and trains helped to spread the killer virus.

Although the death toll attributed to the Spanish flu is often estimated at 20 million to 50 million victims worldwide, other estimates run as high as 100 million victims—around 3 percent of the world's population. The exact numbers are impossible to know due to a lack of medical record-keeping in many places.

What is known, however, is that few locations were immune to the 1918 flu—in America, victims ranged from residents of major cities to those of remote Alaskan communities. Even President Woodrow Wilson reportedly contracted the flu in early 1919 while negotiating the Treaty of Versailles, which ended World War I.

With a free media that covered the outbreak from the start, first reporting on it in Madrid in late May of 1918. Meanwhile, Allied countries and the Central Powers had wartime censors who covered up news of the flu to keep morale high. Because Spanish news sources were the only ones reporting on the flu, many believed it originated there (the Spanish, meanwhile, believed the virus came from France and called it the “French Flu.”)

Scientists still do not know for sure where the Spanish Flu originated, though theories point to France, China, Britain, or the United States, where the first known case was reported at Camp Funston in Fort Riley, Kansas, on March 11, 1918.

Some believe infected soldiers spread the disease to other military camps across the country, then brought

it overseas. In March 1918, 84,000 American soldiers headed across the Atlantic and were followed by 118,000 more the following month.

When the 1918 flu hit, doctors and scientists were unsure what caused it or how to treat it. Unlike today, there were no effective vaccines or antivirals, drugs that treat the flu. (The first licensed flu vaccine appeared in America in the 1940s. By the following decade, vaccine manufacturers could routinely produce vaccines that would help control and prevent future pandemics.)

Complicating matters was the fact that World War I had left parts of America with a shortage of physicians and other health workers. And of the available medical personnel in the U.S., many came down with the flu themselves.

Additionally, hospitals in some areas were so overloaded with flu patients that schools, private homes and other buildings had to be converted into makeshift hospitals, some of which were staffed by medical students.

Officials in some communities imposed quarantines, ordered citizens to wear masks and shut down public places, including schools, churches and theaters. People were advised to avoid shaking hands and to stay indoors, libraries put a halt on lending books and regulations were passed banning spitting.

According to *The New York Times*, during the pandemic, Boy Scouts in New York City approached people they'd seen spitting on the street and gave them cards that read: “You are in violation of the Sanitary Code.”

With no cure for the flu, many doctors prescribed medication that they felt would alleviate symptoms... including aspirin, which had been trademarked by Bayer in 1899—a patent that expired in 1917, meaning new companies were able to produce the drug during the Spanish Flu epidemic.

Before the spike in deaths attributed to the Spanish Flu in 1918, the U.S. Surgeon General, Navy and the *Journal of the American Medical Association* had all recommended the use of aspirin. Medical professionals advised patients to take up to 30 grams per day, a dose now known to be toxic. (For comparison's sake, the medical consensus today is that doses above four grams are unsafe.) Symptoms of aspirin poisoning include hyperventilation and

pulmonary edema, or the buildup of fluid in the lungs, and it's now believed that many of the October deaths were actually caused or hastened by aspirin poisoning.

The flu took a heavy human toll, wiping out entire families and leaving countless widows and orphans in its wake. Funeral parlors were overwhelmed and bodies piled up. Many people had to dig graves for their own family members.

The flu was also detrimental to the economy. In the United States, businesses were forced to shut down because so many employees were sick. Basic services such as mail delivery and garbage collection were hindered due to flu-stricken workers.

In some places there weren't enough farm workers to harvest crops. Even state and local health departments closed for business, hampering efforts to chronicle the spread of the 1918 flu and provide the public with answers about it.

A devastating second wave of the Spanish Flu hit American shores in the summer of 1918, as returning soldiers infected with the disease spread it to the general population—especially in densely-crowded cities. Without a vaccine or approved treatment plan, it fell to local mayors and health officials to improvise plans to safeguard the safety of their citizens. With pressure to appear patriotic at wartime and with a censored media downplaying the disease's spread, many made tragic decisions.

Philadelphia's response was too little, too late. Dr. Wilmer Krusen, director of Public Health and Charities for the city, insisted mounting fatalities were not the "Spanish flu," but rather just the normal flu. So on September 28, the city went forward with a Liberty Loan parade attended by tens of thousands of Philadelphians, spreading the disease like wildfire. In just 10 days, over 1,000 Philadelphians were dead, with another 200,000 sick. Only then did the city close saloons and theaters. By March 1919, over 15,000 citizens of Philadelphia had lost their lives.

St. Louis, Missouri, was different: Schools and movie theaters closed and public gatherings were banned. Consequently, the peak mortality rate in St. Louis was just one-eighth of Philadelphia's death rate during the peak of the pandemic.

Citizens in San Francisco were fined \$5—a significant sum at the time—if they were caught in public without masks and charged with disturbing the peace.

Infected either died or developed immunity.

Almost 90 years later, in 2008, researchers announced they'd discovered what made the 1918 flu so deadly: A group of three genes enabled the virus to weaken a victim's bronchial tubes and lungs and clear the way for bacterial pneumonia.

Since 1918, there have been several other influenza pandemics, although none as deadly. A flu pandemic from 1957 to 1958 killed around 2 million people worldwide, including some 70,000 people in the United States, and a pandemic from 1968 to 1969 killed approximately 1 million people, including some 34,000 Americans.

More than 12,000 Americans perished during the H1N1 (or "swine flu") pandemic that occurred from 2009 to 2010. The novel coronavirus pandemic of 2020 is spreading around the world as countries race to find a cure for COVID-19 and citizens shelter in place in an attempt to avoid spreading the disease, which is particularly deadly because many carriers are asymptomatic for days before realizing they are infected [4,5].

Each of these modern day pandemics brings renewed interest in and attention to the Spanish Flu, or "forgotten pandemic," so-named because its spread was overshadowed by the deadliness of WWI and covered up by news blackouts and poor record-keeping.

We have had the chance to discover a very ancient handbook of Dermatology (1920) where several ointments were described in order to combat all the dermal manifestations in Spanish flu that are similar at all to the symptoms (almost in paediatrics today) during the third pandemic. List of four ointments hospitals used to prepare and administer for these purposes can be found in the Table 1.

The AA have tried these four remedies spreading the munto the rashes especially in youngest (elder than 12y) and appreciated the complete remission in few days.

**Table 1:** List of four ointments hospitals used to prepare and administer

Emplasto de Quarin:	Emplasto del Abate Doyen:
Syrup of mauve 64	Hyericum perforatum oil 500
Almond oil 48	Lead oxide 500
Egg yolk q.s.	Pine resin 128
	Oliban 64
	White soap 16
Enplasto de Péltre-Fueller:	El Cirujano:
Carnauba wax 48	Rose water 192
Gum ammoniac 32	Copaive resin 32
Ferula persica gum 32	Balm de Tolu 32
Galbanum 32	Arabic gum 32
Pyrethrum root pulv 16	
Mustard seeds 16	
Turpentine 16	

## Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be

published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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