compound is acetyl salicylaldehyde diacetate. Theoretically, it should require time to hydrolyze the acetyl radicals from the molecule and in turn to oxidize the aldehyde to salicylic acid. Actually, the administration of this compound produced low levels of salicylic acid for only 8 hours.

Of the series tested which included nicotinyl salicylic acid, acetylsalicylic acid, salicylic acid, saligenin, salicyoyl-beta-alanide, acetylsaligenin, the salicylic ester of succinic acid, acetylsalicylaldehyde diacetate, and the amide of o-aminobenzoic and salicylic acids, it was found that nicotinyl salicylate gave the most prolonged blood levels with the least peaks in the curve. One hundred mg. per kilogram of nicotinyl salicylic acid given to rabbits produced blood levels which at the termination of a 40 hour period were still at 4 mgm.%. The comparable test for acetylsalicylic acid gave a picture showing complete disappearance of salicyl from the blood at the termination of a 26 hour period. The initial level did not rise as high but remained more constant throughout the period. No basic reason can be advanced at the present time for this unusually prolonged duration of blood levels seen with nicotinyl salicylate.

SUMMARY

A series of salicylic acid derivatives was studied for duration of blood salicyl levels in the rabbit. The series comprised salicylic acid, sodium salicylate, acetylsalicylic acid, a solubilized acetylsalicylic acid, nicotinyl salicylate, salicyoyl-beta-alanide, acetylsaligenin, the salicylic acid ester of succinic acid, acetylsalicylaldehyde diacetate, the amide of o-aminobenzoic and salicylic acids, and saligenin. The effective compounds were studied in combination and singly. Of this series, the most effective single compound was found to be nicotinyl salicylate and the most effective combination was one of nicotinyl salicylate and saligenin.

REFERENCES


Epidemic Gastro-Enteritis

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This malady characterized by abdominal cramps, nausea, vomiting, and diarrhea, is more prevalent than formerly or presently recognized. Because the average case, or the majority of cases, are comparatively mild in many aspects, and because it simulates many gastrointestinal upsets, it is rarely recognized as an entity. It is variously termed as Acute Infectious Gastro-Enteritis, Intestinal Influenza, Winter Vomiting, Seasonal Gastro-Enteritis, Hanover Disease, Spencer Disease, and Devil's Diarrhea.

It is scantily described in medical literature as appearing in widespread epidemics, endemic, sporadic, and communicable disease of unknown origin. It affects groups of people, schools, barracks, and isolated cases in the population. Adults are mostly affected, small children to a slight degree. It spreads rapidly, affecting many, and tapers off gradually, but seldom of long duration. The majority of cases appear in the autumn and early winter, when upper respiratory infection, and influenza prevail.

The cause is obscure, possibly a virus, affecting the nervous and digestive system. Infection of the gastro-intestinal tract, by food and drink is a possibility. Direct contact and air borne infection are also possibilities. A combination of several etiologic factors is of the most logical consideration.
The prodromal symptoms are hyperirritability, insomnia, headache, bad taste in the mouth, dyspepsia, belching, borborygmus, expulsion of flatus, and general malaise. The onset is generally sudden, nausea, vomiting, diarrhea, abdominal cramps, distension, tenesmus, and epigastric distress. All the mentioned may be present, but at times one or two symptoms are absent. They are mostly mild, lasting twenty-four hours or a few days, but may last one to two weeks. Fever 99-104, muscular soreness, headache, dizziness and chills are present. Some do not feel very ill, and refuse to be confined. Relapses are common, after a brief period, and may recur after several months at late autumn or early winter. Some have cramps of a severe nature, followed by a sudden expulsion of flatus, and the entire condition terminates in twenty-four hours. The person feels relieved, suffering from slight weakness and muscular fatigue.

There are frequently pulmonary symptoms due to upper respiratory infection. The stools are grayish or brown, sour smelling, containing mucus, rarely pus or blood. Here, even when the diarrhea is profuse symptoms of collapse and dehydration are not notably evident.

The feces contain first undigested food particles and later decreasing greatly. The bacterial flora contain nothing unusual, colon bacilli predominate, cocci, rods, staphylococci and streptococcus fecalis. As the diarrhea progresses the bacterial contents diminish.

The blood count is mostly normal, a moderate leukocytosis, rarely large. The vomitus contains HCl at first, but later becomes watery, alkaline, or bilious.

Gastroscopic examination in 35 cases revealed a mild superficial gastritis, reddening of the gastric mucosa, affecting mostly the antral surface, only where the symptoms are pronounced. In mild cases, where vomiting was scant, the mucosa was covered by a mucoid secretion. In recurrent cases, patches of localized gastritis were noticed. The pyloric sphincter was very active and reddened.

The kidney function was not disturbed, although as one would expect, the urinay output was diminished. Albuminuria and cylindruria were faint. A history of previous kidney infection could not be established. The proctoscopic and sigmoidoscopic investigation revealed a hyperemic mucosa in 50% of cases. Tenesmus and rectal irritation were noticeably present. Bacillary and amebic infection could be excluded by bacteriologic finding, severity, pus and blood in the feces and mucosal ulceration.

Food poisoning could be established by tracing the source and history following the ingestion of a certain meal. When there is abdominal pain, shifting to the lower right quadrant, with leukocytosis, appendicitis should be suspected. Even if the pain is not localized at McBurney's Point, and the leukocyte count is moderate, the possibility of appendicitis should not be overlooked.

Analysis of 2,000 cases seen during the past 16 years discloses that the onset was always sudden, with an incubation period very brief, seldom more than four days. In the great majority of cases nausea, vomiting, diarrhea and abdominal cramp were always present. In a few, one or two of the mentioned symptoms were absent, but diarrhea was always present. Abdominal cramps of a varying degree were almost always present, colicky, generalized, moderate, or severe, and occasionally centered at R. Q. or L. R. Q. simulating G. B. involvement or appendicitis. Fortunately, the latter were less than 2%. Fever was almost always present, 99-104. Prostration and dehydration were not encountered to a great degree. As the disease does not last long, and is usually mild, the pain cleared up shortly. Jaundice of a mild nature was present in 4% of the cases. The kidneys were effected in 6% of cases, albuminuria 2 plus to 4 plus, also cylindruria were present. About 20% had coryza, laryngitis, bronchitis, headache, backache, resembling influenza. Cerebral symptoms were in 12%. Slugish reaction of the pupils, headache, dizziness, increased reflexes, irritability, and muscular spasm.

Pain in the lower right quadrant simulating appendicitis during a diarrhea, or enteritis due to various causes is a widely established experience. This is due to an accumulation of offensive, irritating material in the cecal pouch, causing engorgement, which extends to the appendix. The pain, however, is usually mild, often transitory, and not strong on deep palpation. In other words, it is a cecitis. Still one should be on the alert for actual appendicitis, as it happened twice in the mentioned cases. The surgeon stated that the cecum, small and large intestines were unusually hyperemic and that he noticed the same while operating on previous occasions.

Prophylaxis, this term is applicable in the treatment regime, although the real etiology is obscure. There is a strong possibility that the virus is transmitted by contact. Ordinary precautions should be taken in handling the patient, sterilizing utensils, proper disposal of vomitus and excreta. Avoidance of chilling and exposure, during the season when upper respiratory infections prevail. Special care to keep the abdomen warm is helpful. Avoidance of certain foods that cause allergy and indigestion. During the attack, fresh fruit juices, and easily assimilable proteins are recommended. Plenty of water, hot water, half milk and half lime water, lime water, strong cocoa and milk, lemonade, and wine are useful. The food intake should be small at first or none at all, while diarrhea and vomiting are active. Hot applications to the abdomen and rest in bed are useful. If pain is severe a hypodermic of pantopon is advisable. For headache and muscular soreness, aspirin, phenacetin or codein should be used. For the cramps and diarrhea, paregoric ounces II with kapectate ounces II, two teaspoonsful every 1/2 hour until relieved, then every 1-2 hours. Another useful preparation con-