Was the Baby Shaken?

Clemetson CA

TOWNSEND LETTER for DOCTORS & PATIENTS - January 2002

Editor,

Child abuse laws have given rise to many accusations of "Shaken Baby Syndrome," which has become a popular diagnosis to explain infant deaths, and even for living infants who are brought to an emergency room following a fall. Much is made of the finding of pinpoint petechial hemorrhages in the retina at the back of the eye, but the existence and extent of such hemorrhages are dependent on the capillary strength or fragility, the strength or weakness of the smallest blood vessels, which can be affected by many different conditions. In fact, an infant can die with extensive retinal hemorrhages, a blood clot under the capsule of the brain, extensive bruises, broken bones and sores that will not heal, due to Barlow's disease, without having been subjected to anything but the tenderest of loving care.

Barlow's disease is another name for infantile scurvy or vitamin C deficiency, which was a well-recognized condition among bottle fed infants, both in Europe and in the United States in the first half of the 20th century. It occurred not only among the poor who did not know or could not afford to buy orange juice as a supplement to the milk diet, but also among the infants of some affluent members of society who boiled the milk to destroy the germs of tuberculosis, so destroying all vitamin C. Other infants developed Barlow's disease due to the feeding of a commercial "malt soup," whose alkalinity destroyed vitamin C.

Today Barlow's disease is rare, but could perhaps still occur if people were to go overboard with heating the bottle in a microwave oven, or if they do not know that natural apple juice is a very poor substitute for orange juice. One hundred grams of fresh orange juice (3-1/4 fluid ounces) contains about 49 mg of vitamin C, but nowadays it is the fashion to give infants apple juice instead; unfortunately there is only 1 mg. of vitamin C in the same amount of fresh apple juice, so unless the parent knows to buy apple juice with vitamin C, there can be a risk of vitamin C deficiency.

People will rightly say that severe vitamin C deficiency is rare in the Western World today; not only is it rare, it is even more rarely diagnosed, as the bleeding gums which are so characteristic of adult scurvy, are never seen in toothless infants. It is bacteria between the crevice between the tooth and the gum that cause local infection; infection causes local vitamin C depletion and vitamin C deficiency predisposes to infection, so a vicious cycle can develop, leading to the foul mouth and the bleeding

gums of scurvy. This does not occur in edentulous infants. Multiple bone fractures and subperiosteal hemorrhages do occur in Barlow's disease, but all too often now the subperiosteal hemorrhages, lifting the growing sheath right off the surface of the bone, are thought to be a result of the fractures, instead of being recognized as revealing their cause. Even this X-ray finding, formerly known as being characteristic of the healing phase of scurvy, is now often said to be evidence of child abuse. Of course vitamin C deficiency is not the only cause of spontaneous bone fractures in infants; they also in occur in osteogenesis imperfecta or fragilitas osseum; moreover, capillary fragility occurs in many other conditions ranging from measles to thrombocytopenia purpura.

Our recent knowledge of the role played by an increased blood histamine concentration, or histaminemia, as the leading cause of capillary fragility in vitamin C deficiency, enables us to understand the additive effect of all other causes of histaminemia. We now know that bruising and bleeding of scurvy result from an increase in the blood histamine concentration, which causes the endothelial cells lining the inside of the blood vessels, to become separated from one another; there is no change in the blood clotting mechanism, but a profound disturbance of the endothelial architecture. It is now known that the blood histamine level begins to increase as soon as the plasma ascorbic acid or vitamin C concentration falls below the normal level of 1 mg per 100 ml, even though frank scurvy does not occur until it falls below one fifth of that value. Blood plasma vitamin C levels and whole blood histamine levels show a remarkable inverse relationship, both in guinea pigs and in humans, but many toxins and other factors, including vaccinationsand inoculations also cause an increase in the blood histamine level. We are all aware of the effects of increased tissue histamine concentrations, revealing themselves as nettle rash, hay fever or asthma, but an increased blood histamine level can be a silent killer. We now must appreciate that the degree of histaminemia and the resultant capillary fragility can result from a concatenation of circumstances. We may have an infant with a borderline vitamin C depletion, which on its own would have been relatively innocuous, now becoming more severe as a result of infection or some other stress; even the common cold or coryza can halve the blood plasma vitamin C concentration in 24 hours. Furthermore, we now know that heavy metals like mercury, copper, or even iron ion excess can deplete vitamin C reserves, so we have to wonder about the effects of the mercurial antiseptic thimerosal used in some pediatric inoculants. Moreover, it has been shown that the toxins or toxoids of the usual inoculants cause increased blood histamine levels in animals. So we must consider the effects of all the inoculants given together to an infant already ill or vitamin C depleted; the blood histamine level, the capillary fragility and the likelihood of petechial hemorrhages will be the result of all these factors added together.

We should no longer be looking for one cause in the death or the injury of an infant. We should take into account all the factors leading up to an event or to the final demise. Now, with so many inoculants being given at the same time, we must consider their collective toxicity. All bacterial inoculants are toxoids or toxins, but they vary in toxicity and sometimes the toxicity of two toxins may be greater than the sum of the two. Fortunately these questions can be sorted out, and one way to do it is by measuring the blood histamine levels before and at different times after single or multiple inoculations. Also it will be possible to study the protective effects of vitamin C in reducing the histaminemia. Ascorbic acid aids the conversion of histamine to hydantoin-5-acetic acid for elimination and has been shown to protect against the toxicity of inoculations, both in animals and humans. Even some soldiers going to the Gulf War suffered severe reactions to some of their inoculations, so this matter is of concern to the armed forces as well as the rest of us.

Physicians are aware of the fact that vitamin C deficiency impairs the hydroxylation of the amino acids proline and lysine, which are essential building blocks for the synthesis of collagen and that fibroblasts and related chondroblast, osteoblast and odontoblast cells manufacture collagen as the foundation for fibrous tissue, cartilage, bone and tooth dentin, respectively. Moreover, we have known that the larger blood vessels are encased by an outer coat of fibrous tissue, but the bleeding of scurvy comes from the capillaries and smallest venules which have very little in the way of a collagen sheath. It is the inverse relationship between the vitamin C and blood histamine level that is not widely known; as a result, there is little understanding of the way in which vitamin C depletion, infection and toxins or toxoids have an additive effect leading to capillary fragility, easy bruising and retinal petechiae.

All mammals except us, the apes, monkeys, guinea pigs and a mutant rat make their own ascorbic acid from simple sugars in the liver, so they do not need vitamin C in their diet. Monkeys, apes, and guinea pigs make up for this defect by eating plenty of fresh fruit and greens, but we suffer when we try to live on stored foods from the center of the supermarket. We are defective mammals, lacking fur, and lacking the ability to make our own vitamin C. We take care to provide ourselves with clothes and housing to make up for our lack of fur, but we do not always take enough care to make up for our inborn error of metabolism. It is odd that medical schools, which teach so much about DNA and the genetic code, do not pay more attention to teaching nutrition and about a major human genetic defect shared by us all. The pertinence of these observations can be readily appreciated when one considers the grave injustice suffered by Alan Yurko of Orlando, Florida, who was accused of "Shaken Baby Syndrome," convicted and sentenced to life imprisonment for murder.

After becoming pregnant Francine Yurko became sick and remained so during her pregnancy, often to the point of dehydration, going from her original weight of 130

lbs. down to 120 lbs., at one point and finally coming back to her original weight of 130 lbs. at time of delivery. She said she was too sick to take her vitamins. When one considers that the current recommended weight gain for pregnancy is 25 to 30 lbs., it is clear that she was malnourished and so was her unborn child. The infant was born prematurely, weighing 5 lbs. 8 oz. and had several medical problems including respiratory distress syndrome, pneumonitis and jaundice. The jaundice was still evident four weeks after leaving the hospital; its health was further impaired when it received 6 inoculations (for diphtheria, whooping cough, tetanus,influenza B, oral polio vaccine and hepatitis B) at 8 weeks of age. Eleven days later the infant developed a high-pitched cry and his skin became warm to touch. Having been warned at an earlier office visit that these things might ensue, Francine Yurko was not overly alarmed.

Two days later when Alan Yurko was alone at home caring for the infant and his four year-old daughter, the infant wheezed, gagged and stopped breathing, so he picked him up by the heels and slapped him on the bottom to get him breathing again. He rushed the infant to the hospital, but three days later it suffered another respiratory arrest in hospital and died at 10 weeks of age. Severe anemia, with a hemoglobin of 7.8 grams and the jaundice were entirely consistent with Barlow's disease. The only visible mark on his body when he was admitted to the hospital was a small bruise on the right lower eyelid where his feeding bottle had hit him when his sister dropped it.

Post mortem examination showed two more bruises on the temporal areas of his head and fresh bleeding into the right eye, but not the left. Cerebral edema and fresh subdural hemorrhages were present, especially on the right side of the brain, but also at the base of the brain, where pontine hemorrhage could well have accounted for his fever of 105oF. There were healing fractures at the costochondral junctions of the 5th, 6th and 7th ribs on the left side. Fracture of the 10th rib may have occurred as a result of handling during the autopsy. Diffuse interstitial pneumonitis was also observed.

A diagnosis of "shaken baby syndrome" was made by the pathologist, in concordance with the child abuse laws which require the reporting of child abuse whenever there is suspicion of it. The prosecutors suspected both parents of child abuse, but Francine Yurko refused to implicate her husband and Alan Yurko refused to plead guilty to a lesser charge, because he knew he was innocent. Clearly this infant's death resulted from a concatination of unfortunate circumstances causing vitamin C deficiency and capillary fragility.

Many of us would say that it is unwise to give inoculations to a premature infant, especially when it was poorly, but it is easy to be wise after the event. No one should ever be accused of child abuse on such flimsy evidence, and certainly not without a blood analysis for vitamin C and histamine. If there is any justice I this world Alan

Yurko should be released from prison and so should all others falsely accused of child abuse.

Alan Clemetson, MD
Professor Emeritus
Tulane University School of Medicine

-transcribed by Susan E. Kreider, RN, CPC

http://www.freeyurko.bizland.com/townsend.html