During the last two years we have seen an increasing number of cases with edema disease of piggles in Sweden. The Swedish pig husbandry is characterized by a strong specialization so that about 50% of the pigs are reared in piglet-producing herds and sold to finishing herds where they have reached 10-25 kg body weight.

Edema disease has become a common cause of death especially in purchased pigs 7-14 weeks after transfer to the finishing unit. They used to be fed very carefully but today the breeding selection has achieved a rapid-growing pig which is fed very intensively. Separate starter feeds with hormones® and extra vitamins have reduced the risk of death. The pigs are now given 16-20 kg more feed generally than a few years ago. Animal protein and essential micro acids are added to the feed for optimal growth. All this feeding is now in Sweden because of high demand of meat quality.

It is common that 1-2% of purchased pigs are hit by edema disease, most often 1-4 weeks after arrival. The diseased pigs often come from only one piglet producer, in 9 cases of 10. It is a small producer that packs the piglets late and given only too feed, which causes a lack of protein and energy that is used in the finishing herd. These pigs are in good condition but they have probably not been developed under-system for handling uncustomed feed, especially protein. Consequently they get an incomplete digestion which is a good nourishment for harmful bacteria like Listeria monocytogenes. Besides the pigs are stressed by being mixed with pigs from other herds.

The clinical symptoms of edema disease appear very rapidly. First you may see a swelling of the eyes and in a redness around the eyes. Abomasus and paraanalys are soon developed. Many pigs show generalised tetanus. These central nervous disturbances often develop into convulsions. The death is caused by acute, circulatory failure.

At post necropsy a jelly-like edema is prominent, most often in the mesenteric folds of the coiled portion of the large intestine and between the muscular and serosal layers of the stomach wall. A characteristic finding in our material has been a network of fine fibrin-threads surrounding the intestine. Coagulation has been found in most cases.

Since earlier treatment with antibiotics and cortisone has had a most limited value, we have sought other unconventional medicines for therapy. It has been shown that some antipsychotic drugs are useful in the treatment of diabetes, for instance those who are caused by E.coli-enterotoxin. We have used melforone, which since 15 years has been used as a neuroleptic in man. It stimulates CNS activity and inhibits convulsions. In contrast to many other neuroleptics it has a positive effect on the circulatory system. Melforone has antihypertensive properties and lowers the blood pressure both the preload and afterload, which is beneficial for an unprepared heart. Since collapse of the circulatory system seems to be the cause of death at edema disease melforone should be of value in treatment.

In cases of edema disease we used an i.v. injection of 4-8 mg melforone per kg body weight. If the treatment was performed in an early stage the result was successful in most cases. Even many pigs with convulsions were recovered. More than 100 pigs with edema disease were treated and 9 different farms. At these farms the recovery has been between 75 and 100%. It is of course very important that the treatment is made at an early stage of the disease.

A double-blind, randomized, clinical test was performed. Farmers and stockmen who were well acquainted with edema disease got blind samples with either melforone or dihydrostreptomycin in adequate doses to treat edema disease in an early stage. (Melforone 5 mg per kg, dihydrostreptomycin 15 mg per kg). The diseased animals were examined by us as soon as possible to confirm the diagnosis. Dead pigs were necropsied. The code was broken after the first half of the trial.

A significant decrease of the mortality in the finishing units was found in the melforone group, in comparison with the dihydrostreptomycin group. Moreover no difference in the mortality of the melforone- or dihydrostreptomycin-treated young piglets was found which may depend on the rapid course of the illness at weaning. These young piglets were often found weakened before the treatment. Consequently melforone has been found to cure edema disease of pigs in the finishing units whereas the effect in piglets after weaning must be studied further.