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SWINE FLU

Titles in CAPITALS refer to my other information handouts – please, ask for a copy to be sent or emailed if you need it, or look for it on my website.

The interesting thing about all flu pandemics is that only about half of the population actually get flu. The question we should be asking is what is it about this half that stops them from getting flu because they are undoubtedly exposed to the flu virus? Clearly their defences against infection are good, so what is it about those people that make the difference.

VITAMIN D

Flu pandemics are much more virulent during the winter months than the summer months. Indeed it is already being predicted that swine flu will flare up in the Autumn. The reason for this is vitamin D. Vitamin D is the sunshine vitamin and so the more sunshine you can get without actually burning, the better your vitamin D levels. Indeed a recent paper in the Lancet confirmed that vitamin D is indeed highly protective against viral infection. Roughly speaking one hour of Mediterranean sunshine will produce 10,000iu of vitamin D. Most pills in shops provide only 400iu of vitamin D – furthermore, this is often as the inactive vitamin D2 rather than the active D3. I like people to have at least 2,000iu of vitamin D3 daily and for people who may be particularly susceptible, I recommend a once weekly dose of 50,000iu of vitamin D3.

HYPOCHLORHYDRIA – Low stomach acid

Swine flu is an enterovirus – that is to say it infects the gut. All viruses get into the body through the mouth. Those that are inhaled get stuck onto the sticky mucous lining the respiratory tract, coughed up and swallowed. That is to say all these bugs end up in the stomach and the stomach is the first line of defence against infection. The stomach should be an acid bath – those people with good acid stomachs therefore will kill the virus, or at least substantially reduce their numbers. This means that people with low stomach acid, either because they are naturally like that, or because they are taking acid blockers (such as proton pump inhibitors, H2 blockers, or antacids) will be more susceptible to infection with swine flu. A test that will give you some idea if you have low stomach acid is to swallow half a teaspoon of sodium bicarbonate in a glass of water. If you have an acid stomach the sodium bicarbonate will react with this, produce carbon dioxide and you will burp. If you suspect hypochlorhydria then this could be tested for by doing a salivary test, namely a salivary vascular endothelial growth factor - (see HYPOCHLORHYDRIA on website).

If you are hypochlorhydric, you can either acidify the stomach at mealtimes using betaine hydrochloride or, in these circumstances, use ascorbic acid. Ascorbic acid is vitamin C. It kills viruses very effectively because it is an acid and also because it is an ascorbate – see below.

VITAMIN C

Vitamin C kills all bacteria and viruses, but is remarkably non-toxic to human cells. Ascorbic acid is the best form because it acidifies the stomach and the ascorbate is also directly toxic. At the first sign of any cold or flu, I suggest taking 10 grammes (10,000mg) initially and then adjust the dose according to symptoms. The aim is to cause mild diarrhoea – the reason it causes diarrhoea is because it kills the friendly bacteria in the gut – that is to say once you get the diarrhoea, you know you have got a therapeutic dose. You can then replace the bacteria in the gut using probiotics – (see PROBIOTICS and KEFIR on website).

TAKE REASONABLE HYGIENIC PRECAUTIONS

Not because this will stop you from getting an exposure, but because it will help reduce the initial viral load. This gives the immune system a bit more time to get up and running. My guess is that

masks will be pretty useless and detract from the more important measure of hand washing. The virus is spread from the respiratory tract by runny noses, coughing and sneezing, the droplets stick onto furniture and fittings and are picked up by touching.

Allow inflammation. The body reacts against viruses with inflammation and the result of inflammation is either directly toxic to the virus, or helps to physically expel virus from the body. For example, viruses are very temperature sensitive – for the body to run a fever is a good thing – fever kills viruses (and bacteria). A good snotty nose helps to wash out virus from the nose and a hacking cough blasts the bugs from the lungs. Symptoms may be uncomfortable but should be welcomed as an appropriate way to get rid of virus. This is why I hate to see symptom-suppressing cold remedies such as paracetamol, antihistamines, alcohol, decongestants, cough mixtures which interfere with the body's natural mechanisms of killing and expelling virus. **SO DO NOT SUPPRESS SYMPTOMS – THEY ARE NATURE'S WAY OF EXPELLING INFECTIONS.**

Run a temperature – there is no doubt that people who tend to run cold all the time are more prone to picking up infections and indeed this is the basis of the age old adage to “wrap up well in cold weather or you will catch a chill”. It would be interesting to measure your basal temperature. Low temperature can be indicative of borderline hypothyroidism and this can certainly present with recurrent infections. Children are very good at running a temperature at the first sign of virus, but adults less good. At one stage Boots used to market a product called rhinotherm which blasted hot air into the nose – the idea is that you inhaled this at the first sign of a cold and for some people it got rid of the virus. I know some patients can get rid of a virus by giving themselves a temperature – i.e. using a hot bath to get themselves as hot as possible and then wrapping up in blankets with a hot water bottle to make themselves sweat it out. I know some athletes deliberately go running in order to induce a temperature, sweat out a virus, but I have to say this is extremely risky and not something I would recommend as it could trigger a flare of chronic fatigue syndrome (CFS)! The only exception to using paracetamol for fevers is in some children who tend to get fits if their temperature goes up too high. In this event paracetamol and tepid (have you ever had a fever and cold water splashed on you?) sponging should be used to prevent this happening. It is therefore doubly important in these children that micronutrients are used to improve the immune response.

Rest and warmth sound like common sense but are ignored by many. Rest allows the immune system to work unhampered whilst warmth kills bugs. Some people find a hot bath or a sauna produces an artificial fever and helps get rid of infection. So much CFS is triggered by the workaholic who continues to strive even when they are ill.

Zinc - 10mgs four times daily into the mouth kills microbes. Zinc is probably the most common deficiency resulting in poor immunity.

Consider a detox regime. There is no doubt that chemicals have immuno-suppressive effects – they also depress the bone marrow and this could explain borderline anaemia and low white cell counts. I often do fat biopsies on patients and invariably find raised levels of pesticides or volatile organic compounds – indeed I have yet to see a normal result – and all these chemicals cause immune suppression. Increasingly I am coming to the view that we should all do detox regimes. First of all we should avoid chemicals as much as we possibly can, secondly take good micronutrients to improve the liver detoxification of chemicals and thirdly sweating regimes. Obviously the most physiological sweating regime is to take exercise, but impossible in CFS patients. Far infra red saunas are effective in reducing chemical loads, as demonstrated by doing fat biopsies before and after sweating regimes.

Think allergy – allergy to dairy products often presents with recurrent infections, especially tonsillitis. Sometimes allergy symptoms can present with symptoms of an acute cold – ie rhinitis and cough.

Think thyroid – hypothyroidism may present with a tendency to infection because the body runs cold and the immune system goes slow.

Avoid female sex hormones, which are immunosuppressive and increase susceptibility to viral infections

There are some very useful antiviral herbal preparations on the market such as colloidal silver and Echinacea, propolis 600mgs three times daily, lime tea etc. but it is really a case of trying as many things as you can until you find a combination that suits you.

Why Vitamin D is really important!

Skin contains a cholesterol derivative, 7-dehydrocholesterol. UVB radiation on skin breaks open one of the carbon rings in this molecule to form vitamin D. This has to be twice activated in the liver and kidney to make 1,25-dihydroxyvitamin D. This attaches to receptors on genes that control their expression, which turn protein production on or off. Vitamin D regulates the expression of more than 1,000 genes throughout the body. They include genes in macrophages, cells in the immune system that, among other things, attack and destroy viruses. Macrophages make antimicrobial peptides, ie ones own antibiotics. Like antibiotics, these peptides attack and destroy bacteria; but unlike antibiotics, they also attack and destroy viruses.

Interestingly with Swine flu what kills people is not the virus but their own immune system. Vitamin D also expresses genes that stop macrophages from overreacting to an infection and releasing too many inflammatory agents - cytokines - that can damage infected tissue. Vitamin D, for example, down regulates genes that produce interleukin-2 and interferon gamma, two cytokines that prime macrophages and cytotoxic T cells to attack the body's tissues. In the 1918-19 Spanish flu pandemic that killed 52 million worldwide, young healthy adults would wake up in the morning feeling well, start drowning in their own inflammation as the day wore on, and be dead by midnight. Autopsies showed complete destruction of the epithelial cells lining the respiratory tract resulting, researchers now know, from a macrophage-induced severe inflammatory reaction to the virus. In a terribly misguided way, these victims' own immune system attacked and killed them, not the virus, something in future pandemics vitamin D, in appropriate doses, can prevent.

A credible hypothesis that explains the seasonal nature of flu is that influenza is a vitamin D deficiency disease. Cannell and colleagues offer this hypothesis in "[Epidemic Influenza and Vitamin D](#)" (*Epidemiol Infect* 2006; 134: 1129-40). They quote Hippocrates (*circa* 400 B.C.), who said, "*Whoever wishes to investigate medicine properly should proceed thus: in the first place to consider the seasons of the year.*" Vitamin D levels in the blood fall to their lowest point during flu seasons. Unable to be protected by the body's own antibiotics (antimicrobial peptides) that this gene-expresser engineers, a person with a low vitamin D blood level is more vulnerable to contracting colds, influenza, and other respiratory infections (e.g., respiratory syncytial virus).

Studies show that children with rickets, a vitamin D-deficient skeletal disorder, suffer from frequent respiratory infections; and children exposed to sunlight are less likely to get a cold. Given vitamin D's wide-ranging effects on gene expression, other studies, for example, show that people diagnosed with cancer in the summer have an improved survival compared with those diagnosed in the winter (*Int J Cancer* 2006; 119: 1530-36).

This present outbreak of swine flu was predicted to cause a few cases, then return with vengeance in the autumn. My guess is that a combination of a poor summer together with government advice to avoid sunshine, vitamin D levels in the population are low, at winter levels, so the epidemic has escalated up.

What about a vaccine?

A previous vaccine against swine flu turned out to be worse than the disease. An outbreak in the US in 1976 infected 200 soldiers at a military camp in New Jersey, of whom 12 were hospitalised and one died. But before it was over 40 million people had been vaccinated, 25 of whom died and 500 of whom developed Guillain-Barre syndrome, an inflammation of the nervous system which can cause paralysis and be fatal.

At this point I would not advise people to have a vaccination from swine flu for the following reasons:

- No trials have been done to see if the vaccine is effective
- We have no idea about side effects – at present the virus appears to be producing mild symptoms and my educated guess is that if all the above precautions are observed, then the illness will stay mild. Indeed the manufacturers are refusing to provide any guarantees or indemnity in the event of side effects.
- Vaccinations are always a two edged sword – they have the ability to switch on the immune system. Ideally of course this should be against the virus, but vaccinations can certainly switch on chronic fatigue syndromes, allergies and probably autoimmunity.

Sit on the fence whilst the virus is relatively mild! The idea scenario would be to get your nutritional status perfect, get a dose of swine flu now, have a mild infection and then be immune for decades to come! That is the best possible form of vaccination! It is possible that in future epidemics the virus will mutate into something more virulent.

What about Tamiflu?

Again there is no evidence that this protects against death – it would be useful if it helped reduce viral load but this is also unproven. Side effects are also an unknown quantity. It only has a chance to be effective if given within 48 hours of the first symptom. Since it is now almost impossible to get without a doctor's prescription and instant access to doctors is difficult, one would not like to rely on Tamiflu! Again my educated guess is that all the above nutritional interventions will be highly protective and Tamiflu will be irrelevant.

So the basic principles are:

- Wash hands regularly
- Keep well rested – don't get a sleep deficit!
- Keep warm – viruses are heat sensitive
- Get your micronutrient status as good as possible. Especially think vitamin D, zinc and C.
- Check for hypochlorhydria – ascorbic acid (vit C) helps correct this!
- Do not symptom suppress! Allow a temperature. Aggressively attack viruses at the first symptom with heat, high dose vitamin C as ascorbic acid (swallowed) and magnesium ascorbate (dissolved in mouth) or whichever herbal preparations you find suit you.
- Detoxify as much as possible – including sweating regimes. Identify any allergies you may have – think dairy. Recurrent tonsillitis is typical of dairy allergy.
- Correct thyroid hormone abnormalities – for this you need to test a free T4 a T3 and a TSH
- If the symptoms of a virus do not improve after 3-4 days, then it is possible that a secondary bacterial infection has developed. A healthy body and immune system can deal with most bacterial infections, but call for professional help for less than healthy people such as the very young, old, smokers, diabetics, heart disease, people with a history of chest infection, immuno-suppressed and so on.