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Vitamin D and COVID

Low vitamin D levels are associated with a host of diagnoses and poor outcomes. It therefore comes as no surprise that D deficiency is linked to increased mortality from COVID. An observational study (*Am J Clin Path; Nov 25th*) based on Belgian data from the first wave showed the risk of death was 3.7 times higher for those with 25 OH D3 levels below 50 nmol/L, upon hospital admission, than those above that mark. Levels above 75 nmol/L are considered normal, though some guidelines support even higher targets.

There have been a host of studies showing low vitamin D (D) levels increase likelihood of: testing positive for COVID, becoming symptomatic if positive, converting to negative more slowly, spending more time in hospital, and progressing to ICU, and mortality, as demonstrated by the Belgian study above. There are even a couple of studies suggesting that treatment with high dose D can reduce severity of disease or mortality, but others don't support that claim.

The institutionalized elderly will almost always be D deficient without adequate supplementation. Since D toxicity is low, the product is cheap and is covered by ODB in LTC, virtually all residents should be supplemented. It is not clear if adding D is beneficial, but deficiency carries too much risk to ignore.

COVID Vaccines

Pfizer Biontech (P) and Moderna (M) are here. AstraZeneca and Johnson and Johnson may be coming soon. Anyone watching or listening to the news should have a pretty good idea of the ins and outs of the P and M vaccines. Since care homes will be receiving the M product, that will be my focus. Aside from extreme cold storage requirements, the P vaccine is similar in almost every way, so most comments apply to both products.

M is stored in freezers at standard temperatures (-15 to -25°C) for transit purposes. It's main advantage over the P vaccine is that unused vials can be kept in the fridge, at 2 to 8°C for up to 30 days. If frozen, it may be thawed in the fridge for 2 ½ hours (then warmed at room temperature for 15 min), or at room temperature for 1 hr. Once punctured, whether in the fridge or out, it must be given within 6 hours. The i.m. dose volume is 0.5ml (P wins here with a volume of just 0.3ml).

No other vaccines are to be given within 14 days before or 28 days after P or M. The 2nd M dose is given one month after the first (P is 21 days), but dose separation will likely be greater as vaccine availability is limited and there is urgency to vaccinate as many people as possible, as quickly as possible.

Those with COVID symptoms must wait to be vaccinated and people with severe allergies are at greater risk of severe or anaphylactic reactions. Those with allergies to PEG are at highest risk, as PEG is present in both these mRNA vaccines. Autoimmune diseases can be triggered or worsened by vaccines. Caution is advised, though no issues have been identified to date. Bleeding disorders or anticoagulant meds (popular in our seniors) increase risk of a bleed or hematoma from the i.m. injection. A small needle (less than 23 gauge) should be used to mitigate those risks, and firm pressure is to be applied to the injection site for 5 – 10 minutes after injection. Pregnancy risk is unknown as the vaccine was not tested in pregnant women.

Many typical vaccine side effects are possible: pain, swelling or redness at the injection site, fatigue, headache, muscle and joint pain, chills and mild fever are most common. These effects are milder in the elderly.

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