From: Jaquelyn McCandless [mailto:JMcCandless@prodigy.net]
Sent: Thursday, December 02, 2004 5:04 PM
To: csb autism group; chelatingkids2@yahoogroups.com;
discussion group abmd biomedical
Subject: [abmd] Info on Methyl-B12/Neubrander/long

Dear Jaquelyn,

As you know, very rarely do I respond to "stuff out there" or posts on the Internet. However, I am troubled by information some patients are telling me "is making the rounds".

The most troubling is the use of methyl-B12 shots being prescribed in preservative-free multidose vials to save some money over the cost of prefilled syringes. Please note that every quality compounding pharmacy I have communicated with states emphatically that this is an extremely unwise position for the prescribing clinician and participating parent to undertake together. It should be noted that compounding pharmacies load the syringes in "clean rooms with sterile conditions" resulting in an extremely small chance that contamination may occur [though still possible]. Without a clean room and sterile conditions when a parent draws up the solution, with or without alcohol wipes, etc., the best that can be hoped for is "less possibility of contamination". The FDA, though not always our friend, would be appalled at such a practice. The possibility for contamination in a bottle that is repeatedly punctured is not an insignificant risk, even if all the syringes are filled at the initial sitting rather than just before the shots were to be given. It causes me great alarm to think that the slight cost benefit one may receive weighed against the not insignificant possibility of injuring a child is even considered, especially when methyl-B12 shots are not that expensive when compared to everything else that a child is doing and taking. It is even more surprising to think that this cost [small though not insignificant], when graded against the obvious benefit it produces, and a benefit that is cumulative over time, comes into question.

Another "thing" that is making the rounds in certain circles is that the shots into the buttocks, even with the small needles I recommend [3/10 cc BD insulin syringes, item #328438 ONLY, 31 gauge needle, 8 mm length] can potentially hit the sciatic nerve. Without defending this too much, let me just state that the anatomy teachers at medical schools and neurosurgeons laugh at such a ridiculous thought - even with the smallest premie!

One more "thing" should make the rounds and be better understood so that more parents can see the results possible if their child receives long-term treatment. Dose is only 1/3 of the equation; location of the injection site is 1/3 of the equation; and high viscosity of the base methyl-B12 parent solution is the last 1/3 of the equation. Let me explain by first illustrating a few obvious facts.

The first fact is that if one would take an extremely fine mesh sieve and put a drop of molasses on it, the molasses would take a very long time to go through the mesh sieve. If one took an equal sized drop of water and diluted the molasses, now one has sugar water and the sugar water would immediately run through the sieve even though the sugar content [analogous to methyl-B12 dose/content] was exactly the same.

The second fact, maybe not well known to many parents or clinicians, is that different types of fat have different rates of accumulation and diffusion. What is even less well understood, but which is a fact no less as stated by toxicologists in this area, is that adjacent areas of the same region of the body [e.g. the buttocks] will accumulate and/or allow diffusion of the contents at significantly different rates. Therefore, "butt fat" is definitely different than fat from the arms or abdomen, etc. and the diffusion rate characteristics will differ markedly.

The third fact that needs to be reviewed is that the diffusion rate characteristics of fat is related to viscosity of the solution administered to the adipose tissue and that the diffusion rate is not a linear function but more closely akin to a logarithmic function. For example, if one injects a "watery" 12.5 mg/ml solution of methyl-B12 in one buttock and a 25 mg/ml "syrupy" solution of methyl-B12 in the other buttock, the 25 mg/ml solution will be found much more than twice as long in the tissue.

Many of us believe that the phenomenon we are witnessing with methyl-B12 is not strictly "a deficiency". Instead, we believe it is "a dependency" and that feeding this dependency "24/7" is a better treatment option than the peaks and valleys that occur with most of the other forms of administration. Note that methyl-B12 administered by injections into a fatty substance, no matter what the concentration of the base solution, e.g. 1 mg/ml, 12.5 mg/ml, or 25 mg/ml, will supply the tissues with a more steady-state of methyl-B12 than will intramuscular injections, sublingual preparations, oral, etc. In addition, the more "syrupy" the substance that is injected into the tissue is, the longer the effective treatment lasts, and the longer the interval between shots can be [to obtain the same symptom improvement]. One of the problems that exists is that unless one has followed thousands of doses "with no other confounding factors being added or subtracted" at the same time, one will not be able to see that these differences exist, especially when any dose of methyl-B12 given by any form of administration will produce results, a statement I have made many times. However, it has been my privilege [job?? - calling??] to evaluate between 35,000 to 40,000 shots from hundreds of my patients and from patients that have done many other things. I keep coming back to the same conclusion - for the greatest results for the majority of children [exceptions exist] with the fewest "intolerable" side effects [in contrast to nuisance or at times even severe nuisance side effects, e.g. if at school the child is able to learn and be redirected and focused, even with difficulty], injections made from 25 mg/ml administered (VISCOSITY - 1/3 of the equation) into the buttocks (INJECTION SITE - 1/3 of the equation) once every 3 days at a total dose not too excessive or too minimal (DOSE - 1/3 of the equation) [I use as my standard initiation dose 150 mcg/kg/week typically given once every 3 days which translates 64.5 mcg/kg every 3 days, 43 mcg/kg every 2 days, or 21.5 mcg/kg given daily.] Please note also that FREQUENCY of injections is a mixed function of viscosity, injection site, and of each child's unique adipose clearing rate [diffusion rate - most likely a genetic component is involved here], and that frequency of injections is not a function of "total dose" unless one still believes in the deficiency vs. dependency theory. I do not.

Thank you, Jaquelyn, for posting this for me,

Jim Neubrander, M.D.