HUMAN CHORIONIC GONADOTROPIN (HCG) FOR INTRACTABLE, CENTRAL PAIN

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OBJECTIVE

To determine benefits of human chorionic gonadotropin (HCG in patients with intractable, central pain who are maintained on symptomatic and palliative agents.

BACKGROUND

The prevalence of chronic pain patients who initially have peripheral pain but later develop central pain and require opioid therapy may be higher than insulin-dependent diabetes and severe hypertension. Recent studies have determined that central pain results from microglial cell activation with resulting neuroinflammation, cellular destruction, hormonal and immunologic abnormalities, and profound impairment of physiologic and mental functions. At this time only symptomatic and palliative therapy with neuropathic agents, opioids, stimulants, and anti-depressants are available. HCG is a naturally occurring pituitary hormone in males and females that has receptors in the central nervous system.[1-3] The molecule is comprised of two units. One contains amino acid sequences identical to follicle stimulating hormone (FSH), luteinizing hormone (LH), and thyroid stimulating hormone (TSH). The other unit is an anabolic and neurogenic substrate. HCG has been shown to promote recovery in animals that have undergone spinal cord sectioning.[4,5] Anecdotal reports in humans have been compelling enough to proceed with clinical trials.[6]

TABLE 1
DIAGNOSIS OF CENTRAL PAIN

- Pain is constant (spontaneous)
- Pain does not respond well, if at all, to peripheral treatments such as corticosteroid injections, electromagnetic administration, or physical measures
- History of allodynia and/or hyperalgesia
- Demonstration of excess sympathetic discharge signs which may include tachycardia, hypertension, diaphoresis, mydriasis, vasoconstriction (cold extremities), and hyperreflexia
- Insomnia
- Abnormal pituitary-adrenal hormone serum levels

INITIAL DOSE DETERMINATION

Twenty-two (22) adult central pain patients were started on 125 units of HCG given three times a week by sublingual or subcutaneous injections. Over a 60-day period patients were instructed to progressively increase frequency and dosage until they required a lesser opioid dosage, perceived less pain, and experienced increased energy. Sixteen (16) of the 22 (72.7%) patients reached the three end-point criteria over a 60-day period. The effective minimal sublingual dosage was 250 units a day or 1750 units a week, and the minimal effective subcutaneous dosage was 500 units 3 times a week or 1500 total units for the week.

SUBJECTS

Forty-six (46) patients with severe central pain (See Table One for criteria) that had developed from a peripheral pain site were given HCG. Ages ranged from 25 to 71 years. There were 24 (73.9%) female and 12 (26.1%) males. All patients were maintained on a stable, multiple daily opioid regimen. Length of opioid use ranged from 3 to 29 years. All used one or more of these ancillary agents: neuropathic, anti-depressant, stimulant, anti-anxiety, bedtime sedative, anti-inflammatory.

METHODS

Over the past two years a total of 46 adult patients with central pain have been given HCG by the sublingual or subcutaneous routes. Initial dosages are those shown in the attached box. After 60 days, 31 of the 46 (67.4%) patients believed that HCG helped them and desired to continue it. Eighteen (18) of the 31 patients have now taken HCG for periods ranging from 4 to 24 months. In January 2012 all patients were given written questionnaires which inquired about dosage, side-effects, and benefits that they perceived to result from HCG.

RESULTS

Given here are the results and outcomes of 18 patients who have taken HCG for 4 to 24 months. The other 13 are deemed to have taken HCG for too short a time for meaningful analysis. Fourteen (14) of the 18 used HCG by the sublingual route and 4 by the subcutaneous route. Maintenance frequency and dosages in the sublingual patients ranged from 250 to 750 units a day (1750 to 5250 units a week). The weekly dosage in the 4 subcutaneous patients ranged from 1000 to 1500 units a week given in 1 to 3 separate injections of 500 to 1000 units. Side effects were: acne (2), menstrual bleeding (2), nausea (4) and headache (2). No patient desired to stop HCG, so they reduced their frequency and dosage of administration to alleviate side-effects. The benefits perceived by these patients were substantial and are listed in the accompanying Table.

TABLE 2
BENEFITS REPORTED BY 18 LONG TERM USERS OF HCG

Increased Energy	13 (70.2%)
Increased Mental Concentration	12 (66.7%)
Sleep Better	12 (66.7%)
More Active	11 (61.1%)
Fewer Pain Flares	11 (61.1%)
Better Memory	11 (61.1%)
Less Overall Pain	10 (55.5%)
Leave Home More	9 (50.0%)
Happier	9 (50.0%)
Longer Interval Between Medication	8 (44.4%)
Less Depression	8 (44.4%)
Read Better	8 (44.4%)
Less Suffering	7. (38.4%)
Used Fewer Medications	6 (33.3%)
More Visits to Friends and Relatives	6 (33.3%)
Stopped Some Medications	6 (33.3%)
Fingernails Grew More	5 (27.8%)
Increased Libido	4 (22.2%)
Fewer Burning/Stabbing Flares	3 (16.7%)

Patients each reported multiple benefits.

DISCUSSION

To date, treatment agents available for central pain are symptomatic and palliative. HCG has hormonal activation, neurogenic, and anabolic properties, and, in animals, has been shown to promote nerve regeneration .[3-5] The open clinical trial reported here reveals that some patients experience remarkable improvements in pain relief, medication reduction, sleep, energy, mental concentration, and reading ability. Side-effects have been minor and manageable.

CONCLUSION

Central pain that develops from a peripheral nerve injury can be debilitating and progressive. HCG, should be viewed as a viable option or addition to symptomatic and palliative care in central pain patients.

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