Thymosin Alpha 1

- Naturally produced in thymus gland
- 28 aa sequence encoded by the PTMA gene
- Levels decrease with age
Thymosin Alpha 1

- Potent immune-system enhancing peptide

- MANY human placebo-controlled trials in PubMed (some references noted at end of slides)

- TA1 => Thymalfasin => active ingredient in Zadaxin
Thymosin Alpha 1

- Immune Effects
  - Stimulates T cell production
  - Assists in the development of B cells to plasma cells
  - Decreases production of pro-inflammatory cytokines
Thymosin Alpha 1

- Increases chemotactic response and phagocytosis by neutrophils
- Normalizes immune balance and response
- Promotes TH2-to-TH1 shift
Thymosin Alpha 1: Clinical Effects

- Improves tissue repair and healing
- Improves host defense to infection
- Improves microcirculation
- Inhibits viral replication
Thymosin Alpha 1: Clinical Effects

- Reduces inflammation
- Improves tolerance to stress
- Reverses immunosuppression of CFS/FMG/Lyme
- Increases antioxidant & glutathione production
Thymosin Alpha 1: Therapeutic Uses

- HIV/Lyme Dx
- Chronic viral or intracellular infections (HBV, HCV)
- TBI
- Autoimmune disease
- Allergies
- Chemical sensitivity
- Immune deficiencies (CIDS)
- CFS/FMG
- Aging/Regenerative Medicine
Thymosin Alpha 1

- Approved in over 35 countries; no documented adverse effects; used sq
  - Vaccine adjunct

- Treatment of HIV, HBV and HCV

- Very low incidence of adverse effects

- FDA approved under Orphan Drug Program in US
11 y.o. male – Alopecia Totalis

First seen at T.W. LLC in Jan. ’15 for acute hair loss

- In Dec ’14: c/o “in 2 weeks all his hair fell out”

- PMH: ADD on Focalin bid, Gluten Sens-GF/DF, On Probiotics, Omega’s
Alopecia Totalis: January 2015

- Labs: AI (ANA panel), TFT’s/TPO, Ig panels, Celiac, B12, CRP, CBC, CMP, Lyme, etc all WNL
- Zinc (rbc) = LOW (690)
- CD8/CD57 = LOW (1.3)
- Rx: Hair Formula, Zinc; cont Probiotic, Omega’s
- **Jan ‘15-May ‘15**: to **CHoB**: steroids po/topical cream, & Rogaine; off Focalin x 3 months; NO change in hair growth
Alopecia Totalis—May 20, 2015

- Returns May ‘15: rpt labs unremarkable
- May ‘15: 1st PRP to scalp with Dermapen→ NO pictures taken 😞
- Increased Zinc 25 tid
- Follow up June 22, 2015; 5 weeks later
June 22, 2015
2nd Visit/ 5 wks
June 22, 2015
2nd visit/ 5 wks
June 22, 2015
2\textsuperscript{nd} visit/ 5 wks
June 22, 2015
2nd visit/ 5 wks