CROHN'S DISEASE

LEKHA VS

HEAD - DEPT OF DIETETICS
APOLLO CHILDREN'S HOSPITAL, CHENNAI

Apollo Children's HOSPITALS
Touching little lives.

THIS IS A FIRST STUDY OF THIS KIND IN THE INDIAN SUB-CONTINENT AND WE ARE VERY PROUD TO SHARE OUR EXPERIENCE IN THIS UPDATE.

InitialProcess

- After initial evaluation at OPD & Lab markers
- OGD & Colonoscopy under GA done after written consent
- Biopsies taken from oesophagus, antrum, duodenum, terminal ileum, caecum, ascending, transverse, descending, sigmoid, rectum
- Barium meal and follow through to assess small bowel disease

Family Education

- Family is counseled about the benefit of EEN

  Various treatment options discussed with the family and they are given adequate time to decide without any influence from us.
- Co-existing therapy defined including risk factors (commencing immunomodulators or biologicals)
- Treatment may vary or be converted depending on success.
- Cost Vs Risks Vs Benefits
- Patient information leaflet given

Nutritional Assessment

- Once the patient/Parent makes a choice about therapy , Referral to the Dietitian is given.
- Nutritional assessment

  Anthropometry : Weight, height,BMI

  Biochemical

  Clinical

  Diet history

WORKING OUT THE CALORIE REQUIREMENT

- Target : 120% Of RDA for well nourished
- Catch up growth formula for malnourished

Calorie need (range) :

$$\frac{\text{DRI for energy x Ideal Wt for Ht (Kg)}}{\text{Actual Wt (Kg)}} \text{ to } \frac{\text{DRI for energy x Ideal Wt for age (Kg)}}{\text{Actual Wt (Kg)}}$$

Diet plan

- Feeding plan is based on the requirement of calories
- **Product** : Semi elemental formula (peptide based)
- **Duration** : Week 1-8 (certain cases 6 weeks-depending on clinical response)
- **Response assessed at 15 days**.
- **Consideration :**

  a .School timings

  b. Allowance is given for a can of fizzy drink and a handful of hard boiled candies daily to avoid aversion.

  c. Flavoring added to feed to mask the taste
- **Restriction** : No solid food for the entire period of EEN.

EEN Protocol

- Patients need to stay at least for a week in chennai to monitor therapy and compliance.
- Daily visits to Paeds GE and Dietetics for counselling and familiarizing with EEN.
- Once they are confident and the child is tolerating the feeds they go to their home town to continue EEN.
- Telephone consults on a weekly basis to record weight gain (Dietician) and Peads GE to report any problems.
- After 6- 8weeks gradual re-introduction of normal food from bland,soft diet to normal diet over 3/52.

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Check list given to patients to

Time	Vol	Scoop	Week Day 1	2	3	4	5	6	7
Total									

Observational case series

- Total patient : 12

- Average Age : 10.9 years

  Youngest patient : 4 yrs

- Sex Ratio

  Male: Female - 8: 4

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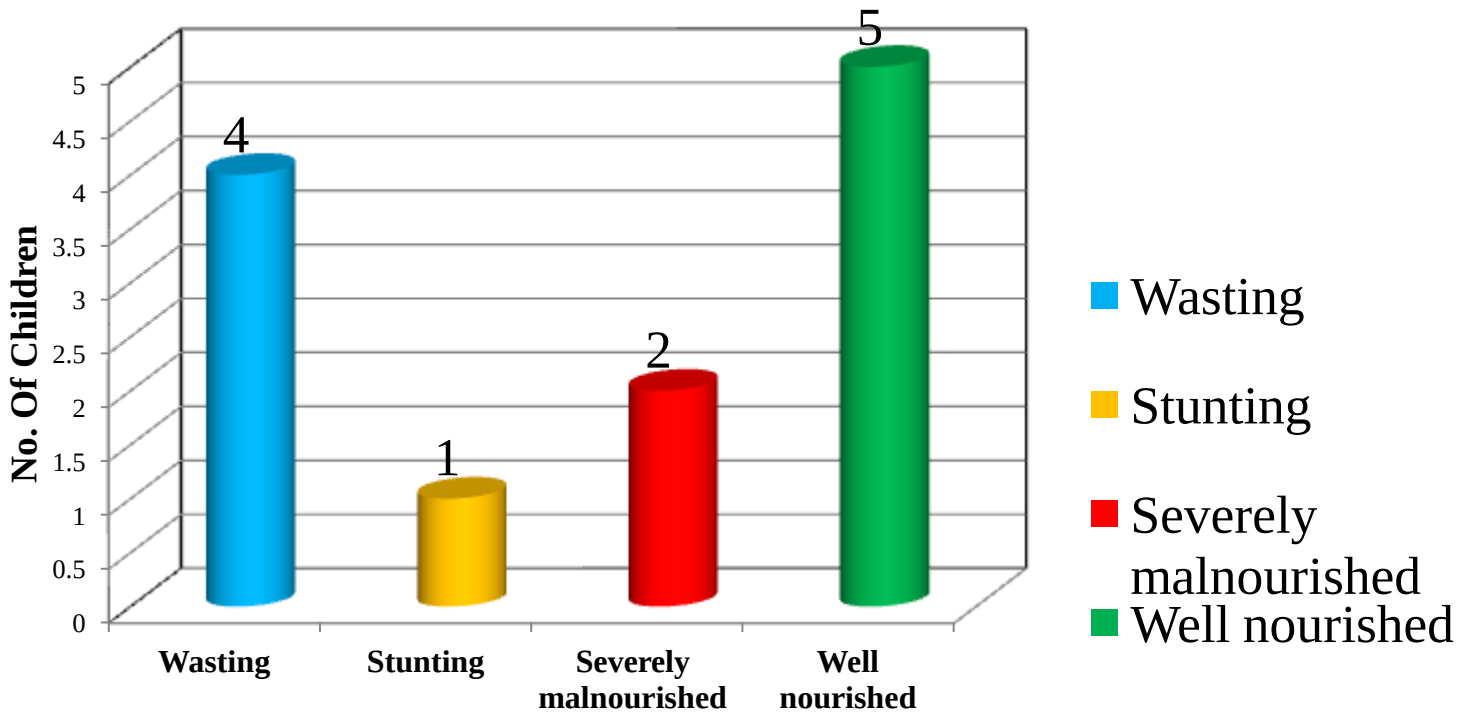
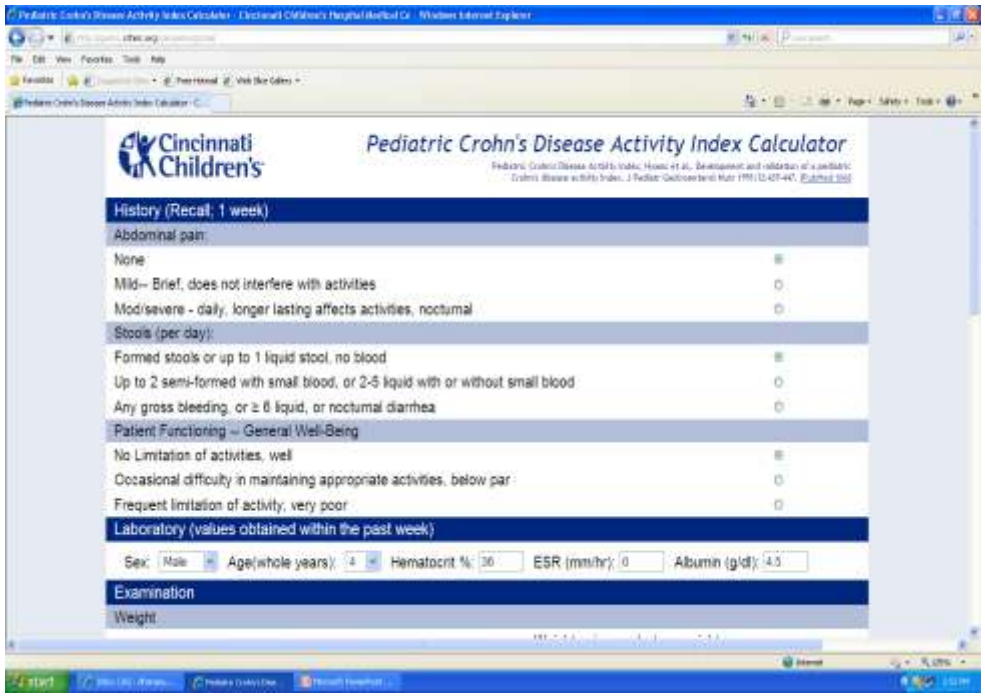
Nutritional Status

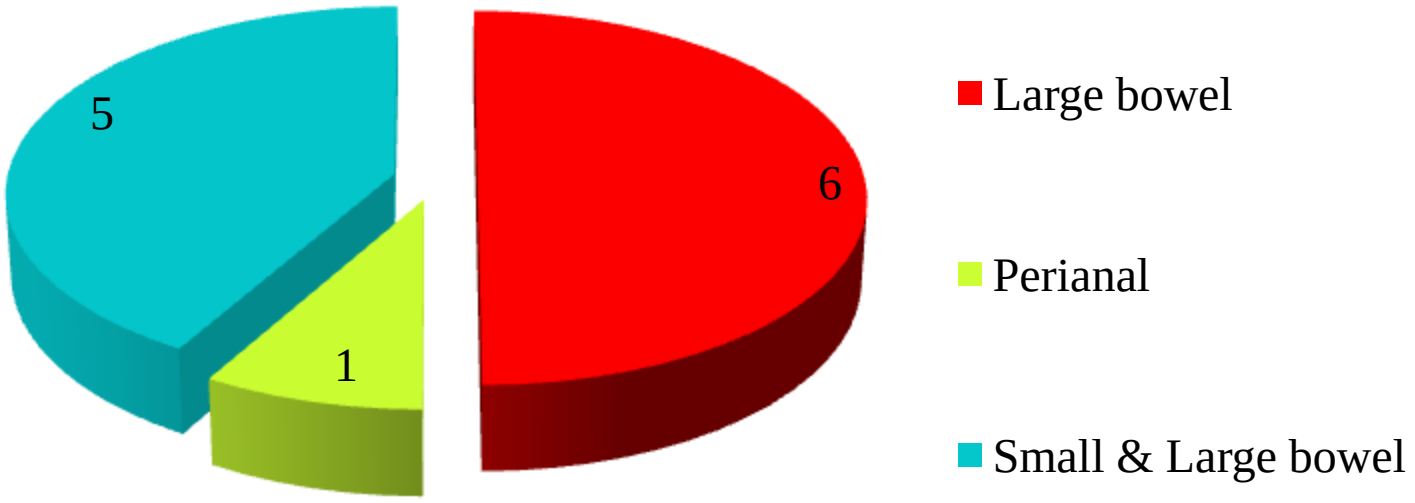


PCDAI in CD

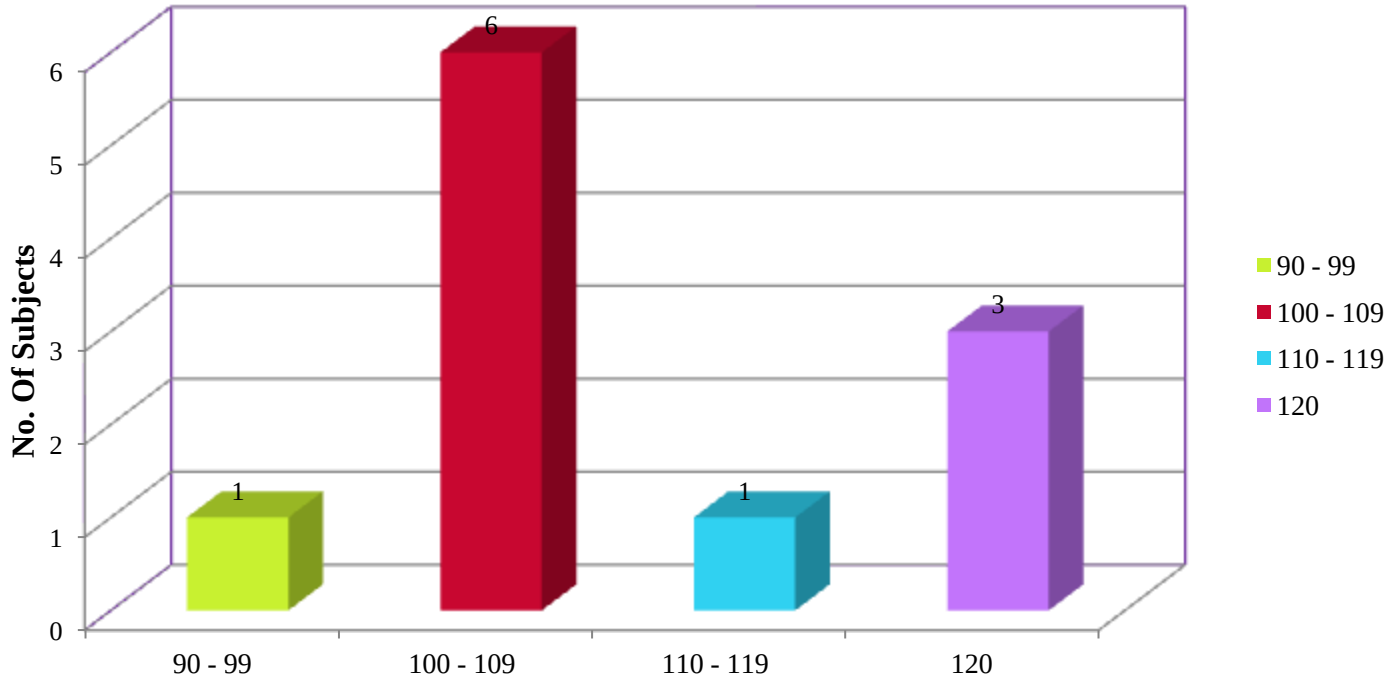
- For all patients was recorded before and after EEN.
- All had low PCDAI.
- Calculations was based Cincinnati children's hospital.



Disease Distribution of CD



Percentage of Calories Met



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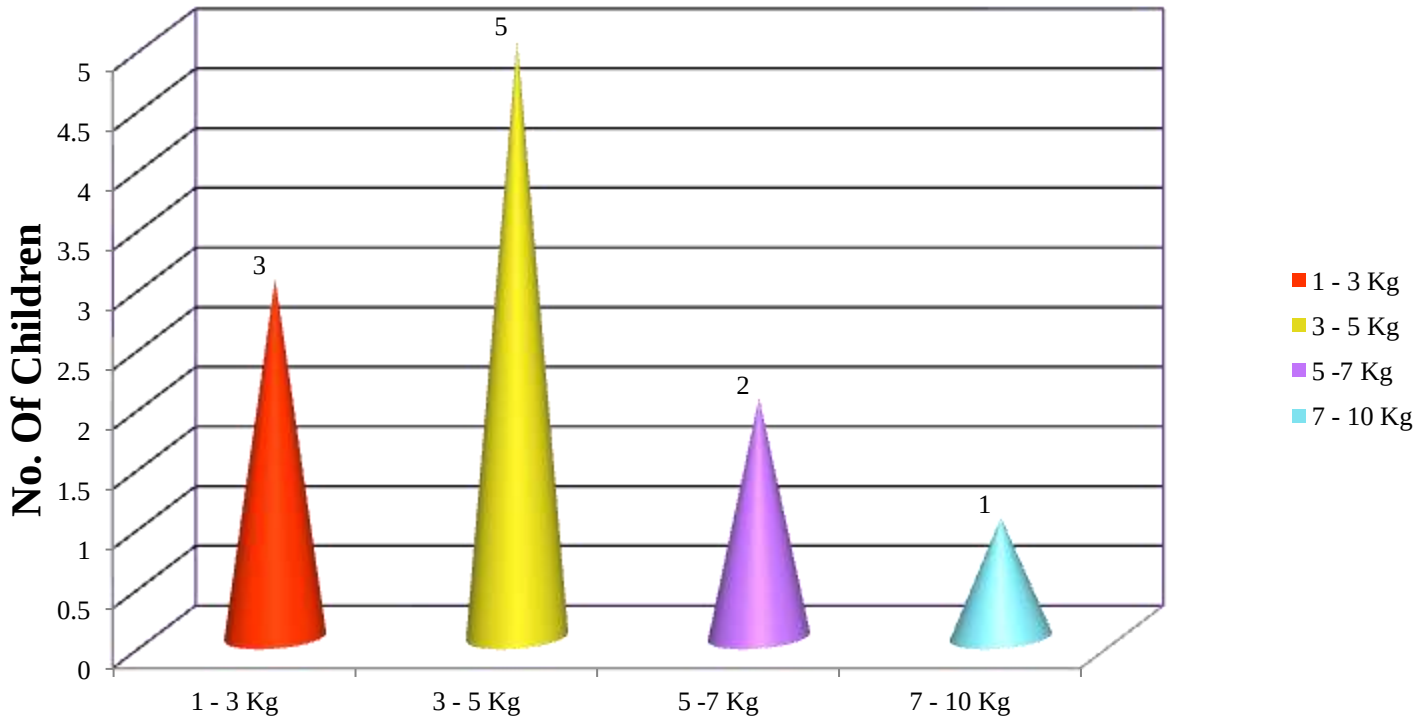
Weight Changes



Success of EEN

- No side effects-PRACTICALLY NOTHING!
- Compliant patients took it all orally-No NGT or PEG Feeds or hospital admissions
- Team work IS CRUCIAL!!! Work with colleagues.
- Support for parents (Coping strategies)-Dinner time, eating outside, sibling diet.
- Co-operation of child and compliance.

Limitations of EEN

- Lack of availability or alternatives other than peptide feeds in India
- Efficacy of polymeric is questionable -although evidence supports it.
- Cost in non-affordable patients-total cost is around >30k for 8 weeks
- Co-operation of child and family is paramount
- Review after completion of feeds only through telemedicine

Conclusion of the study

Treatment with peptide based feeds has got no side effects and is certainly advantageous when compared to corticosteroids and its side effects

Case Presentatation

- 10 year old ,bright and chatty young girl was seen in the Paediatric Gastroenterology OPD with a h/o of long standing intermittent chronic diarrhoea
- Her family are South Indians settled in Malaysia
- She was the shortest in her class and was severely growth retarded and her IQ for her age was grossly normal.

Clinical Presentation

- Diarrhoea has been persistent for 5 years with a natural course of relapse and remission.
- She had seen various pediatricians in the due course of time (5 years) and was treated as recurrent episodes of infective diarrhea and was managed with antibiotics and probiotics.

History

- Abdominal pain that was not interfering her normal activities

- No particular liking towards any particular foods but was classed as a ‘fussy eater’ by her mother

Clinical Assessment

- Mild degree of clubbing (grade 2)
- Perianal examination revealed an anal skin tag

Lab parameters

- ESR – 50mm/hr (indicative of chronic inflammatory process)
- C- Reactive Protein – 4.2mg/dl (elevated- indicative of acute inflammatory process)
- Stool for Occult blood – Positive (indicative of bleeding inside the intestines)
- Normal Liver Function test (normal albumin)

Disease confirmation

- Upper Gastrointestinal endoscopy revealed a normal appearance
- Colonoscopy revealed erythema, mucosal oedema involving various parts of her colon and severe inflammation involving the terminal ileum which involved the ileocaecal valve.
- Biopsies were taken from multiple sites which confirmed the diagnosis of **Crohn's disease.**

Family Decision

- They were offered all treatment choices- including steroids and EEN
- The family were given time to decide on the choice of treatment
- Family made a clear and consensual choice of using exclusive peptide based feeds as treatment

Nutritional Assessment

- Weight for height: 19.4 kg

  < 5th percentile (Wasting)
- Height for age: 122 cm

  <5th percentile (Stunting)
- BMI : 11

  < 5 th percentile –(Underweight)

Diet History (Pre EEN)

Timings	Foods taken	Quantity
7.00 am	Milk	1 cup
8.30 am	Idly / Dosa / Bread + Jam Sambar	2 nos 1 cup
10 am	Biscuit	3 no
1.00 pm	Vegetable rice / Chapattis Veg. Curry B.egg	1 cup / 2nos 1 cup 1 no
4.00 pm	Milk Cut fruit	1 cup 1 cup
5.00 pm	Fried Snacks (Chips, popcorns)	1 pkt
8.30 pm	Same as B/F or Lunch	
10.30 pm	Milk	1 glass
Total intake	**1200 K.cal aprox**	

Nutrition Management

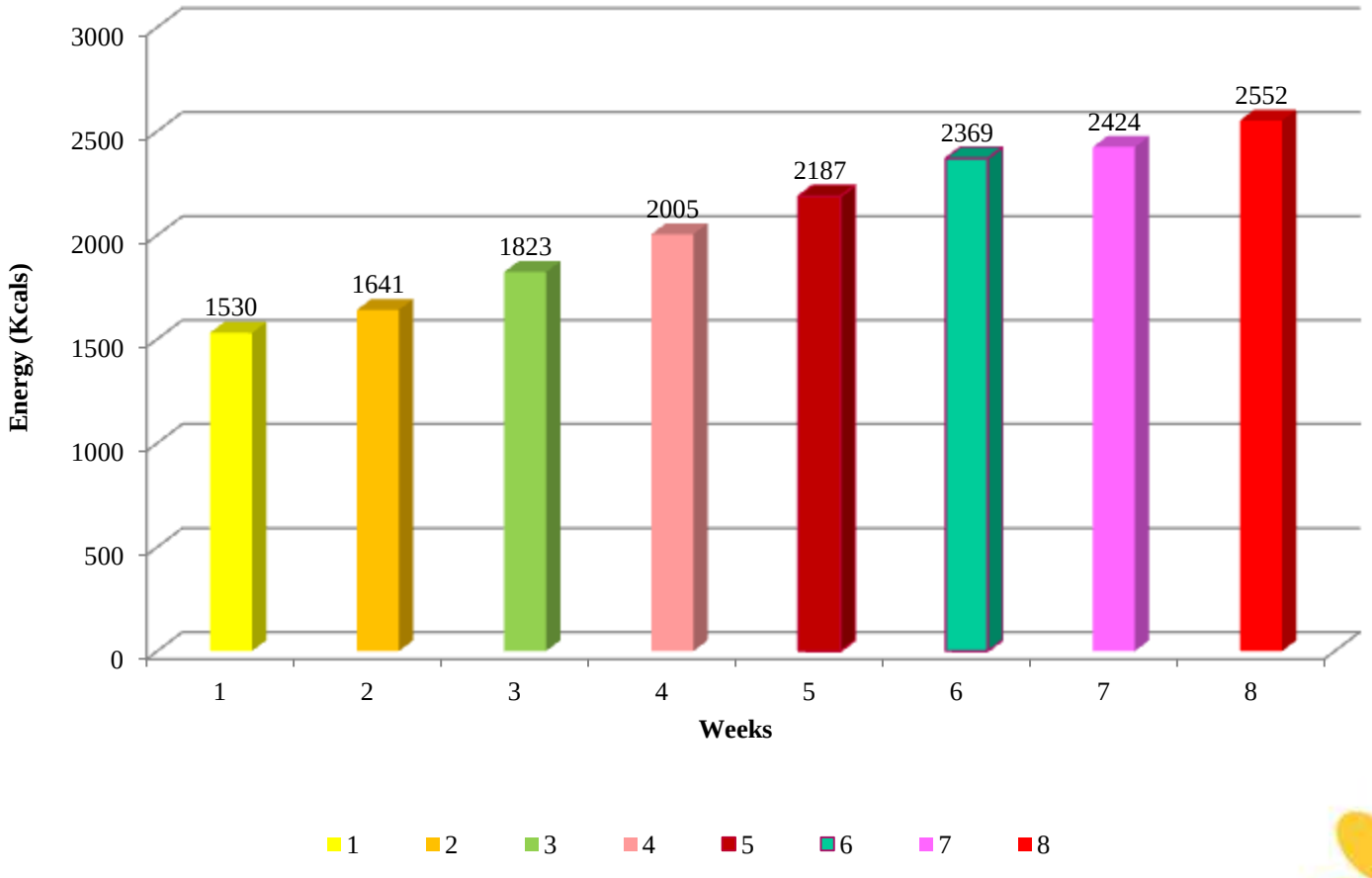
- Estimated calorie required

  2285 - 3000 k.cal

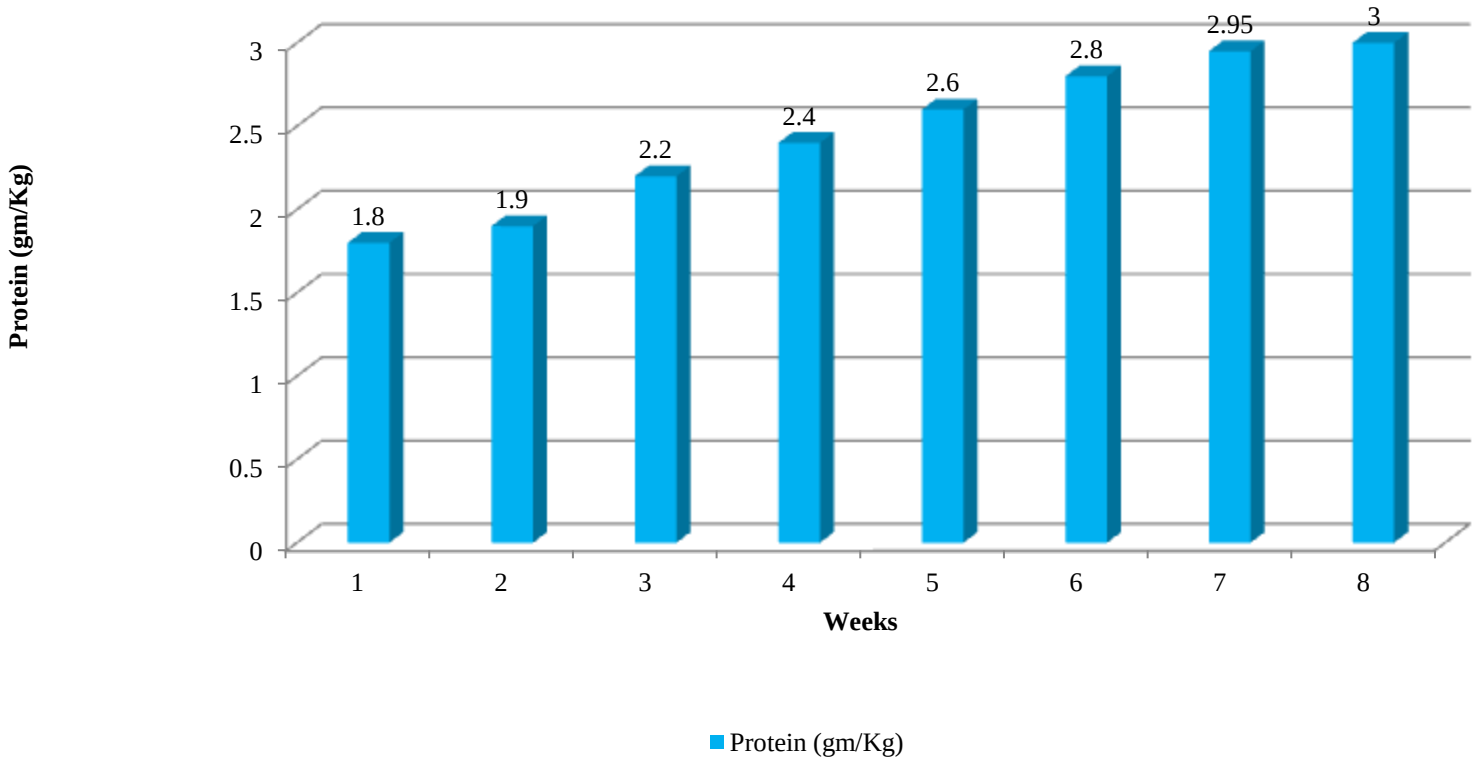
- Commenced on an exclusive **peptide feeds** for a period of **8 weeks**

- She was also allowed - a can of fizzy drink per day, boiled sweets and candy

Weekly energy intake



Weekly protein intake (gm/kg)



Azathioprine

- Oral Azathioprine at a dose of 2 mg/kg once daily
- The family was counselled about the side effects
- Monitored for immediate side effects of Azathioprine therapy which are bone marrow suppression and pancreatitis
- Blood count & serum amylase remained normal

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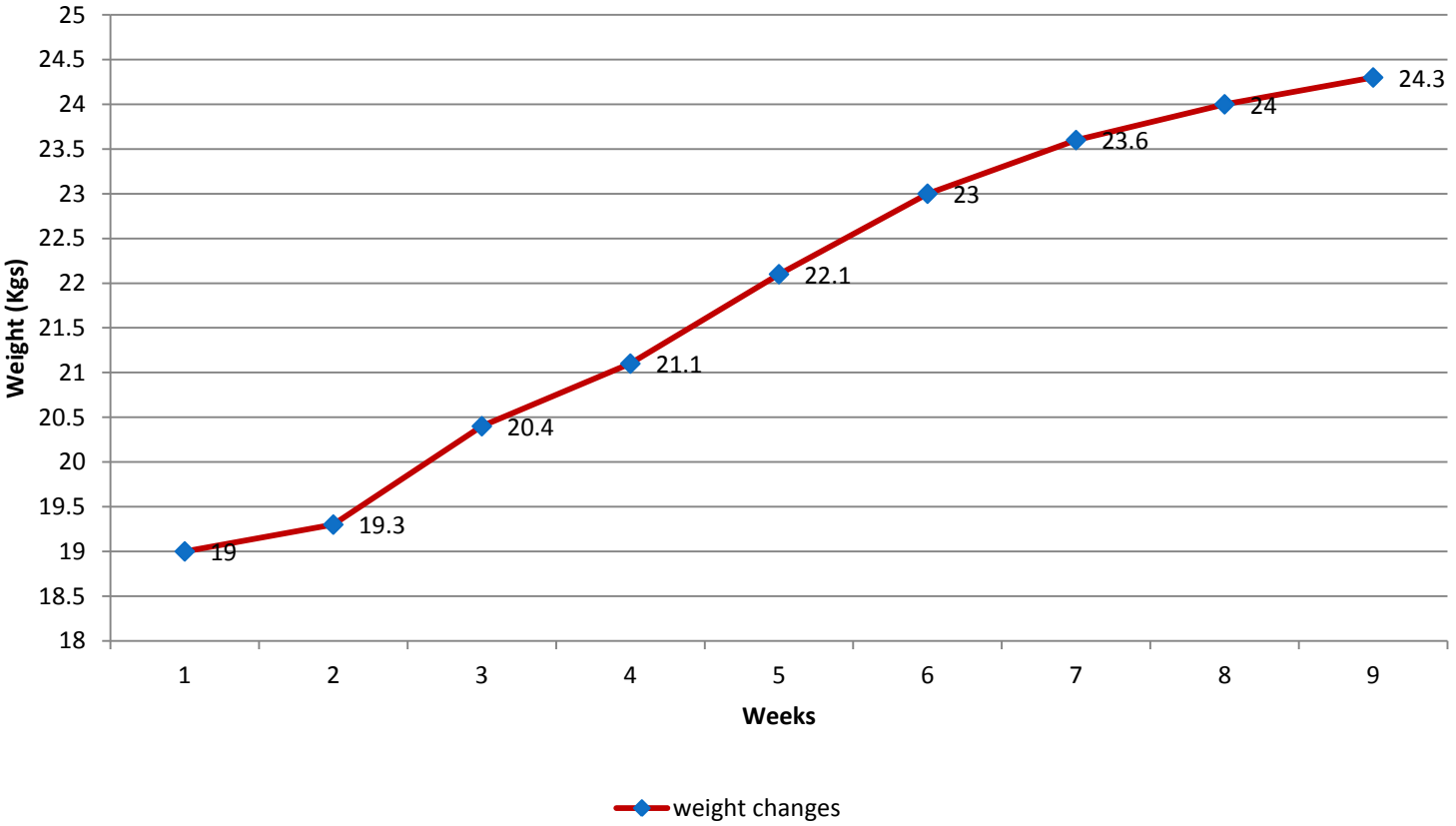
Weight Changes



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End Result

- Weight :24.3 kg (25th percentile)
- Height : 123cm (5th percentile)
- BMI: 16.06

After one year

- Weight :30 kg (50th percentile)
- Height : 130 cm (10th percentile)
- BMI: 17.8

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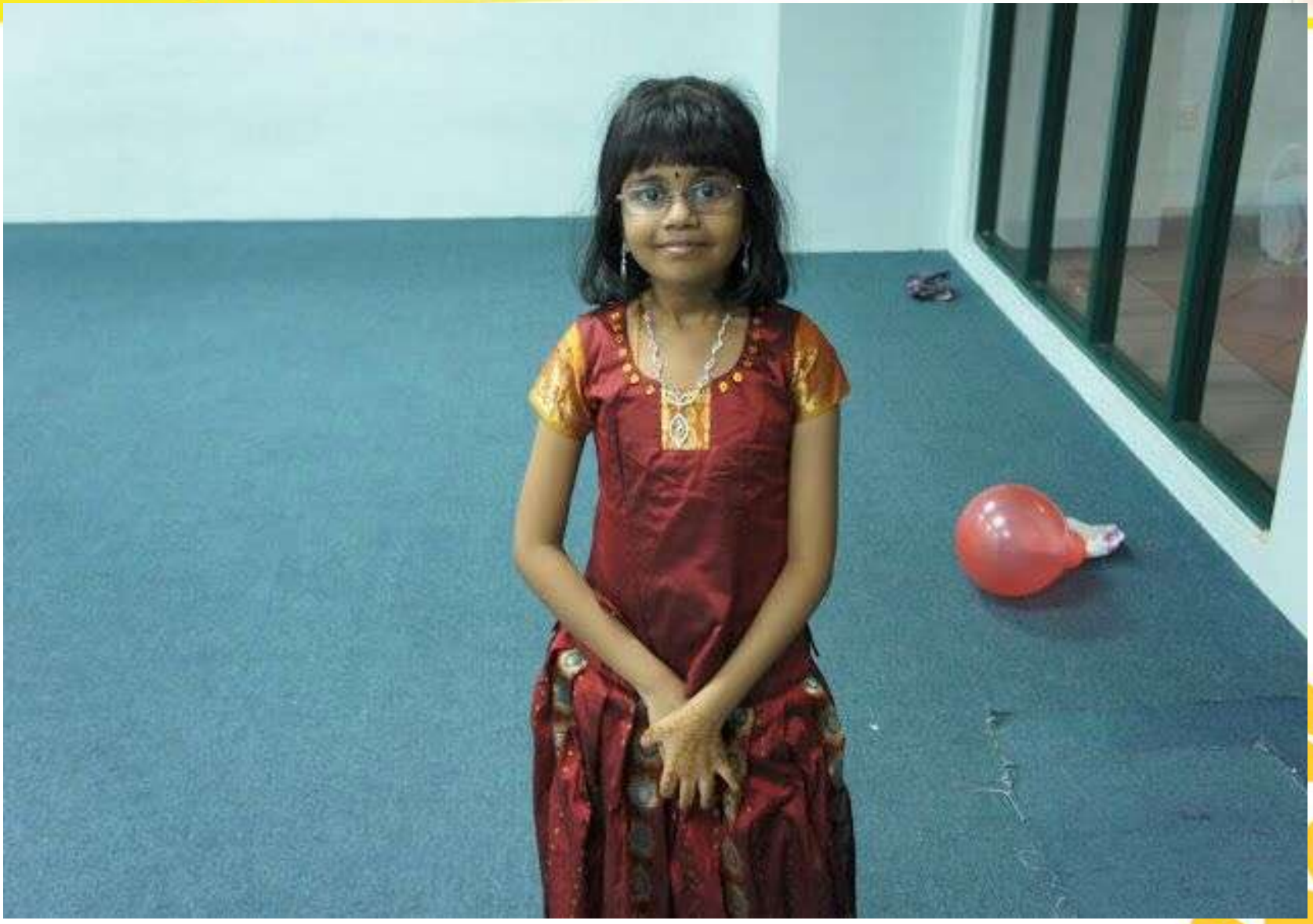
Pre EEN (22/07/12)



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Post EEN (18/08/12)

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After 6 months of treatment

Current (18/08/13)

Conclusion

BSPGHAN,NASPGHAN recommends EEN treatment for Crohn's Disease in the UK and Worldwide and we should consider this therapy as a first line choice in Indian children diagnosed with Crohn’s disease.

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THANK YOU