

Lesson 2 (B): Barium sulfate (2)

Topics

- Duration and degree of visualization
- Patient preparation
- Dose
- Side effects
- Advantages

Duration and degree of
visualization

Duration and degree of visualization

- Depend on:
- Normal versus diseased gastrointestinal tract
- Rate of peristalsis
- Method of administration
- Product formulation
- Dosage and concentration of barium sulfate

Duration and degree of visualization

- Esophagus and stomach:
 - Immediately after oral administration
- Small intestine:
 - 15 to 90 minutes
- Colon:
 - Immediately after rectal administration

Patient preparation

Patient preparation

- For upper GI series:
- No eating or drinking after midnight before the examination
- For colon:
- Intestinal preparation is also necessary

Dose

Dose

- The volume and concentration of the barium sulfate to be administered will depend on:
- The areas under examination
- The equipment
- The technique

Dose and Concentration

- Oesophagus
- Stomach
- Small bowel
- Colon

Dose in CT

- CT patients usually need to drink at least 1000 to 1500 cc to sufficiently fill the stomach and intestines with oral contrast

CT

- نوشیدن ماده کنتراست آبی در جرعه های کوچک

- زمان استفاده از ماده کنتراست:

حداقل 30-60 دقیقه قبل از CT

- چرا؟

- اپاک شدن کامل GIT

- زمان اپاک شدن قسمت پروگزیمال GIT :

20-30 دقیقه

تمام کولون و رکتوم: ” ” ” •

45-60 دقیقه

سوال

- آیا پس از انجام رادیوگرافی از لوله گوارش با سولفات باریم میتوان در همان روز CT شکم هم انجام داد؟
- 3 روز بعد. چرا؟
- ایجاد آرتیفکت

Side effects

Side effects

- Severe stomach pain
- Severe cramping, diarrhea, or constipation
- Sweating
- Confusion
- Fast heart rate
- Pale skin
- Weakness

Minor side effects

- Vomiting
- Diarrhea
- Bloating
- Mild stomach cramps
- Mild constipation

Important points

Hydration

- Adequate hydration after procedure to
- prevent severe constipation.

Complication

- Intraperitoneal extravasation through perforation results in
- extensive fibrosis.

عوارض

- وقتی املاح باریم با مقدار زیاد خورده شوند فلج نسبتاً شدید عضلانی ایجاد می‌شود که می‌تواند عضلات دستگاه تنفسی را درگیر نماید.

Advantages

Advantages of Barium Sulfate

- Barium sulfate produces uniformly good contrast in the gastrointestinal tract.
- It is suspended in water →
- It is not toxic
- It provides greater delineation of mucosal detail

Advantages of barium sulfate

- High safety
- Less expensive than water-soluble iodinated contrast media
- Widely available

Reference

- Jill M. Widmark, Imaging-related medications: a class overview, Proc (Bayl Univ Med Cent) 2007;20(4):408–417.