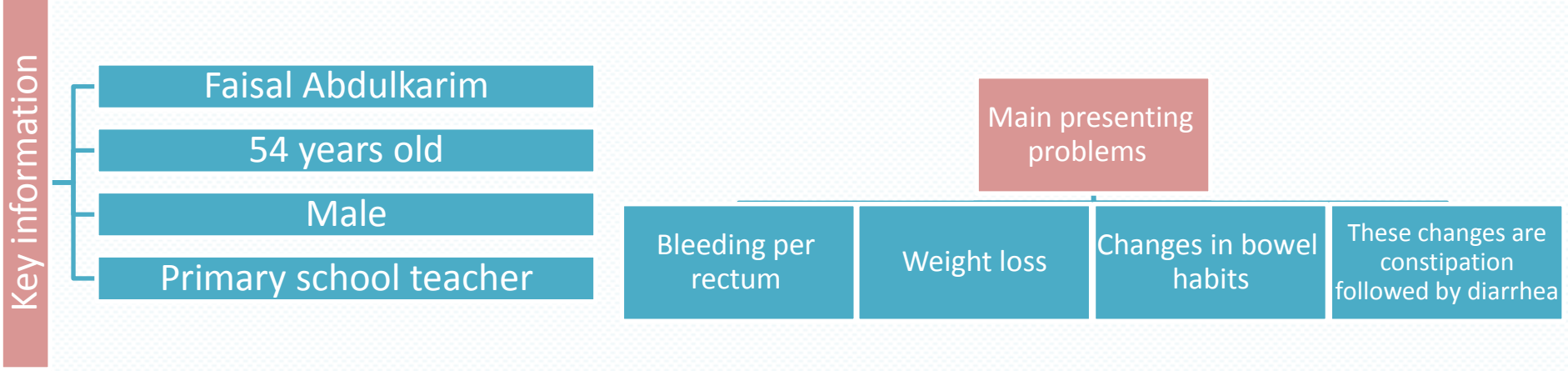
CASE2:
Unexpected outcomes

PBL
TEAMWORK

❖Learning issues:

- Link the anatomy and histology of large bowel with physiologic function.
- Discuss the pathology of colonic polyps and colorectal cancer .
- Construct a mechanism showing how a colon cancer occupying the sigmoid region resulted in the patient's symptoms,signs and laboratory results.
- Discuss mechanism of blood loss and investigations needed for a patient with blood loss anaemia.
- Construct a brief management plan showing management goals and management options for a patient with colon cancer.
- Discuss the important of public awareness about early detection of colon cancer.



New terms

Bowel habits	The time, amount of bowel movements throughout the day.
Constipation	A condition characterized by inability to pass stools that become hard and more difficult to pass.
Diarrhea	A condition that involves the frequent passing of loose or watery stools.
Colonic polyp	A polyp (fleshy growth) occurring on lining of the colon or rectum.
Arthralgia	Pain in a joint.
Stoma	Temporary opening of the terminal end of the intestine into the anterior abdominal surface (important)
Anal fissure	Break or tear in the skin of the anal canal.
Digital per-rectum	The patient undresses, then is placed in a position where the anus is accessible to clinician's finger
Colonoscopy	Medical procedure where a long, flexible, tubular instrument , is used to view the entire inner lining of the colon (large intestine) and the rectum.

History and new problems :

- He notices little blood mixed with his stools , there is no mucus in his stools.
- No abdominal pain or anal pain during defecation.
- Feels tired and has no energy to do his usual daily work.
- No history of vomiting blood or bleeding from anywhere else.
- He loss about 5 kg despite no changes in his diet.
- No history of fever , arthralgia , skin rash.
- He notices change in his bowel habits with a tendency to have constipation for 2-3 days followed by loose bowel motion for another 2-3 days.

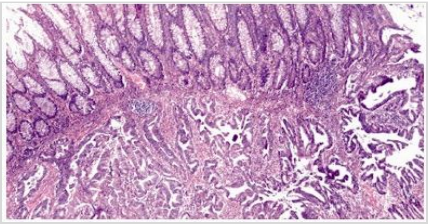
Past medical history	He was diagnosed to have irritable bowel syndrome 10 years ago
Family history	His younger brother was diagnosed to have colonic polyp
Medication and allergy	Nill
Alcohol and smoking	He smokes 20 cigarettes a day for the last 20 years
Social history	He is married and has 5 grown up children

Abdominal Examination

- His abdomen is soft and not rigid or tender.
- His liver , spleen and kidney are not palpable.
- No palpable masses.
- Percussion of the abdomen : No shifting dullness (No free fluid in the peritoneal cavity).
- Digital per rectum: No anal tenderness , no anal fissure , no anal masses , there is fresh blood on the gloved examining finger , no mucus.

Investigations needed

Histopathology



Section from Faisla's colon shows:

- Primary adenocarcinoma invading the wall of the colon.
- Disturbance in the normal structure of the colon.
- Presence of invading neoplastic epithelial cells
- Absence of goblet cells.

liver function tests

- **Normal**

Colonoscopy

I. A mass about 5-6 cm in diameter is seen in sigmoid region .

II. Its surface is irregular and shows multiple ulcers , necrosis and bleeding areas

CT scan of abdomen and chest

Abdomen	Chest
I. A tumor mass occupying the sigmoid colon II. Multiple metastatic masses are present in the draining abdominal lymph nodes III. No metastases are noted elsewhere	Both lungs are clear

❖ Diagnosis : Colorectal carcinoma

- He has a tumor mass in the lower part of large intestine
- Extends to the lumen of the colon and interfere with the passage of stools during defecation. This explains the changes in his bowel habits to constipation 2-3 days followed by diarrhea
- The surface of colonic mass also shows several bleeding area. This explains his bleeding per rectum and low hemoglobin levels (anemia)
- After surgery, the doctor will examine the adjacent lymph nodes of the resected colon. If there's evidence of spread of cancer cells to the draining lymph nodes, chemotherapy is needed (prognostic factor)
- Another prognostic factor which is depth of invasion

❖ Management :

- **Surgical resection of the malignant areas of colon (Colectomy):**

✓ he may need stoma formation after surgery

- **Chemotherapy:**

✓ Starts on 5-Flurouracil

✓ With folinic acid: to reduce the toxicity of 5-flurouracil

❖ Prognosis:

- Dr.Imam arranges for a follow up test by measuring carcino embryonic antigen (CEA)
- He has no symptoms and feels much better. And undergoes CEA after 12 months successfully

Questions

Q1: Mention two factors that may affect the prognosis of this case?	**Q2: What are faisal presenting problems ?**
▪ Evidence of spread of cancer cells to the draining lymph nodes ▪ Depth of invasion	- Bleeding per rectum – weight loss – changing in bowel habits.
Q3: What does mean "stoma formation" in this case?	**Q4: What are the risk factor of developing colorectal cancer ?**
Temporary opening of the terminal end of the intestine into the anterior abdominal surface	Obesity , smoking , elderly , diabitus type 2 , family history of colorectal cancer of adenomatous polyps
Q5: What are the abnormalities seen in colonoscopy of Faisal colon ?	**Q6: Explain the changes in Faisal's bowel habits to constipation for 2-3 day followed by loose bowel motion:**
▪ A mass in sigmoid region ▪ It is surfaces is irregular and shows multiple ulcers , necrosis and bleeding areas	Due to extend of the mass into lumen of the colon which interfere with passage of stools during defecation
Q7: Why after surgery they examine the resected parts of the colon and adjacent lymph nodes ?	**Q8: What was the investigating requested by the doctor to confirm the diagnosis ?**
To know if there is evidence of spread of cancer cells to the draining lymph nodes, so chemotherapy is needed	Colon Biopsy.

Q9: What are the management options in this case?	**Q10: Why after surgery they used chemotherapy ?**
▪ Colectomy of the affected section of the colon and abdominal lymph nodes ▪ Chemotherapy if cancerous cells are evident in the removed abdominal lymph nodes.	▪ To kill cancer cells that spread into the abdominal lymph nodes. ▪ Improve symptoms and prolong survival of patients.
Q11: What is the marker in case of colon cancer ?	**Q12: Explain his bleeding per rectum and low hemoglobin levels (anemia) ?**
Carcino embryonic antigen.	The surface of colonic mass shows several bleeding area
Q13: what are the appropriate investigations that should be done next for Faisal?	**Q14: What is the most common site of gastrointestinal polyps ?**
▪ Colon biopsy ▪ Colonoscopy ▪ CT scan of the abdomen and chest	Sigmoid region (also in this case was sigmoid).
Q15: what is his chemotherapeutic drug?	**Q16: why did he take also folinic acid?**
5-Flurouracil	to reduce the toxicity of 5-flurouracil

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