

## **Role of Anesthetist in the Preoperative Care**

**Case Scenario: 25 year old female known case of bronchial asthma had appendectomy admitted for laparoscopic cholecystectomy .**

**You approach the case like any other case you see in medicine; we start by history:**

- 1. Ask about presenting complain; ask about fever and for how long**
- 2. Drug history if she is on any medications, oral contraceptives and vitamins**
  - A. Example if she was married and taking oral contraceptives for a long time it might lead to DVT if the surgery was prolonged so we give her heparin prophylactically.**
  - b. if the patient was diabetic on oral hypoglycemic because it need to be changed to insulin during surgery to maintain a tight blood sugar for wound healing.**
  - c. ask about thyroxin if she was a known case of hypothyroidism**
- 3. Ask about allergy**
- 4. Past medical history: in this case she is a known asthmatic so it is important to ask about the severity of her condition by asking her the number of emergency or ICU admissions, also ask if her condition affects her sleep (number of night attacks) and was she ever intubated on..**
- 5. if she was married then ask if she did a pregnancy test or not.**
- 6. Past surgical history: previous complication related to anesthesia as bradycardia, difficult to intubate, and a previous cardiac arrest, failed extubation (by asking if they have been to the ICU post op), malignant hyperthermia, and succinylcholine deficiency. Also ask about the size of the tube which you can find in the chart of the patient.**
- 7. In social history ask the patient if he/she is a smoker or not. Smokers tend to have excessive salivation, which can complicate extubation..**

### **Physical Examination:**

**General look; vital signs and body weight. (Temperature, respiratory rate, blood pressure, heart rate, weight and height)**

**If hypertensive from the first reading do not refer her to cardiologist. BP in anesthesia is low cardiac risk.**

**Blood sugar (morning, afternoon, evening) if on oral change to insulin**

**The routine examination for all patients is cardiac and respiratory examination other examinations depend on the history. In cardiac examination lower limb edema makes it difficult to insert a line and difficult to detect pulses.**

**Airway Management: (disease or conditions associated with difficult airways management):**

- 1. Goiter (neck mass, thyroid); causing obstruction**
- 2. Obesity (short neck)**
- 3. Trauma (maxillofacial or mandibular fracture)**

4. Tumor
5. Infection (epiglottitis , submandibular abscess)
6. Inflammatory; restricted neck movement (Rheumatoid arthritis, ankylosing spondylitis)
7. Burn
8. Congenital anomalies (down syndrome , pierre robbinson syndrome)
9. Scleroderma due to restricted mouth opening.

### **Airway examination:**

Same as normal examination; we start with inspection, and general body weight, short neck.

1. start by checking mouth opening when she talks, dental hygiene; look at any protrusion of any incisors and ask for any artificial or loose teeth. Artificial teeth mainly in patients over 60 and loose teeth mainly in children above age of 6.
2. Receding mandible, and examine the mandible.
3. Special tests:
  - a. malampati test (sensitive not specific we need other tests to make it specific): put the head of the patient 90 degrees upright position with tongue protrusion and no phonation. We are looking at the size of the tongue to oral cavity it is to check for tongue hypertrophy (ex; down syndrome tongue can obstruct the airway. Important because the commonest cause of obstruction in coma patients is the size of the tongue. It is divided into four grades: 1 and 2 is easy; 3 and 4 is difficult.
  - b. Thyro -mental distance test: same position as previous test. Normal distance is 6.5 cm or four fingers but no one inserts their fingers as a measurement anymore. If less than 6.5 it indicates high anterior larynx meaning receding mandible meaning intubation will be difficult.
  - c. Sterno -mental distance: normal distance 12.5 cm if less than that indicates short neck with difficult intubation.
  - d. Welm's criteria or test: upper incisors, movement of the jaw (if movement is easy to the outside it indicates easy intubation) movement of the neck, mouth opening, body weight. Each one is graded out of 2 with a total score of 10. The closer the score is to 10 the easier the intubation.

According to history and physical examination we decide on investigation for example in cases of congenital anomalies we can do MRI, goiter we can do CT scan. Unrecognized difficult intubation (be ready and call for help). The aim of pre-op assessment is to take full history, examination (examination of the airway involved inspection, malampati test, thryo -mental distance, sterno -mental distance and welm's criteria), and baseline investigation (CBC for HB, HCT, Platelets, coagulation profile for regional anesthesia, urea and electrolytes, creatinine, blood sugar based on history for wound healing and to avoid coma (diabetic ketoacidosis) cross match but not always if she has an underlying condition and operations with major blood loss such as liver resection. In

**this case we will check the pulmonary function test because she is a known asthmatic.**

**We do ECG/ chest x-ray if they have an underlying cardiac or pulmonary program or he/she is over 40. CT/ MRI needs further consultations depending on indication.**

**Always continue patient's medications and adjust accordingly. Risk of regurgitation give them prophylaxis antiemetic (pregnancy, GERD, obesity). Give benzodiazepines in anxious patients**

**Pre-operative care:**

- 1. Good relation with patient**
- 2. Reassurance**
- 3. Discuss high risk patient**
- 4. Discuss complication and type of anesthesia**