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Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report

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Introduction

Nasogastric intubation is the placement of a marked tube into the stomach through the nose or mouth.

This is an usually Intensive Care Unit (ICU) personnel procedure with the following purposes:

-to drainage and analyse stomach's contents

-continuous drainage

-to decompress the gastrointestinal tract

-to administer drugs and other oral agents

-for diagnostic reasons

-for continuous feeding **[1]**

To ensure proper placement performing the whoosh test is recommended (though not unequivocally confirmed). The "whoosh test" is the air injection trough the tube, if the air is heard in the stomach with a stethoscope, we assume the tube is in the correct position. Gurgling is heard when air enters the stomach, whilst its absence suggests the tip of the NGT is elsewhere (lung, esophagus, pharynx, and so on) **[2].**

Case Report(s)

A female, 55 years old, was at home when a cerebral bleeding occur. She arrives by ambulance at the Azienda Ospedaliera di Perugia (a 900-bed University Urban Hospital), in the Emergency Department. She breathes from the Venti-mask with 100% flow rate and sats 100% SO2, 100 bfm CF, ABP 160/100. The neurological test is G.C.S. 6 (E1; V1; M4), anysocoria right-to-left. The team places a bladder catheter, tracheal tube (OTT - Murphy n° 7), a *Poly Vinyl Chlorur* (PVC) NGT (Levin's tube 16 FG). The cerebral CT showing an *intraparenchimal* bleeding so the patient is addressed in ICU.

Discussion

In ICU, the Central Venous Catheter is indwelled in the right internal jugular vein, it is necessary the CXR test to confirm the correct placement of the OTT and CVC but the NGT is maybe folded up in a loop at D7 level[Fig.1]. .

There's no evidences about the use of the "whoosh test" to assess the correct placement of the NGT as unique technique; in this patient actually the NGT wrong position it was proved by chance.

The gold standard test to value the right procedure it's the CXR. Weak points are the high costs, the timing between the NGT placement and the X-Ray test results, the X-Ray exposure.

Another more reliable method is to aspirate some fluid from the tube; this fluid is then tested with pH paper to determine the acidity of the fluid. If the pH is 5.5 or below then the tube is in the correct position. Is possible to verify with this test at the bed of the patient and it is a very cheap procedure but the results maybe can be inaccurate due to anti-acid drugs, Proton pump inhibitors and a disphagy problem[3].

Moreover, the right placement of the NGT can be confirmed by using capnometry and sonography. The first one requires thesampling tube of the capnograph be attached to the open endof the nasogastric tube and obtain an end-tidal carbon dioxidewave form. Sonography, consists an ultrasound-based diagnostic imaging technique by use of a specialty transducer on the surface of the abdomen[4]. These tests (in alternative for "whoosh test" and X-Ray test) required a well trained staff and sometimes not much reliable because it's up to the operator ability.

We need to find another reliable method like CXR test in case of accidental removal of the device that requires to perform the placement of a NGT even several times a week (i.e. in case of ICU delirium)[5]. Further studies can show which is the correct practice to perform at bedside and with the best relate cost-result.

Abbreviations(s)

ICU = intensive care unit; CXR = chest radiograph; NGT = nasogastric tube; OTT = orotracheal tube

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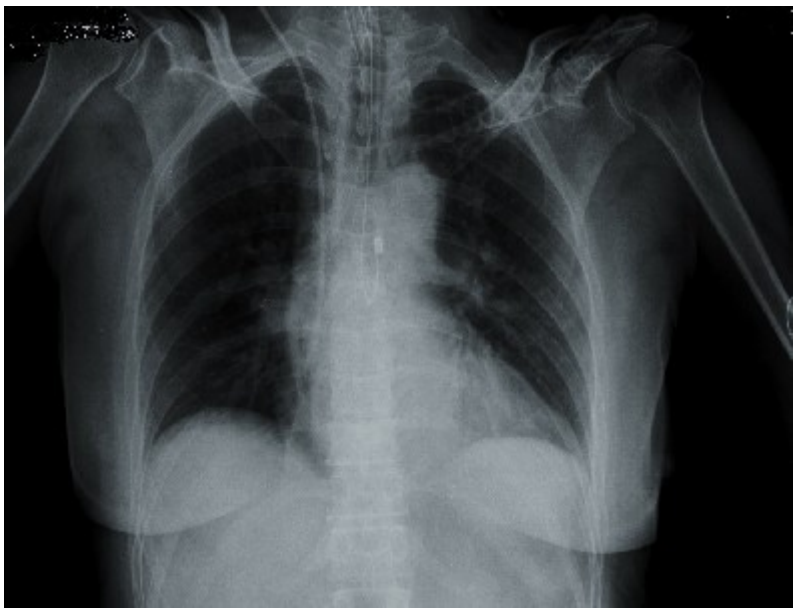
Illustrations

Illustration 1

CRX NGT position



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