



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 through 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), anisocoria 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 the sampling tube of the capnograph be attached to the open end of 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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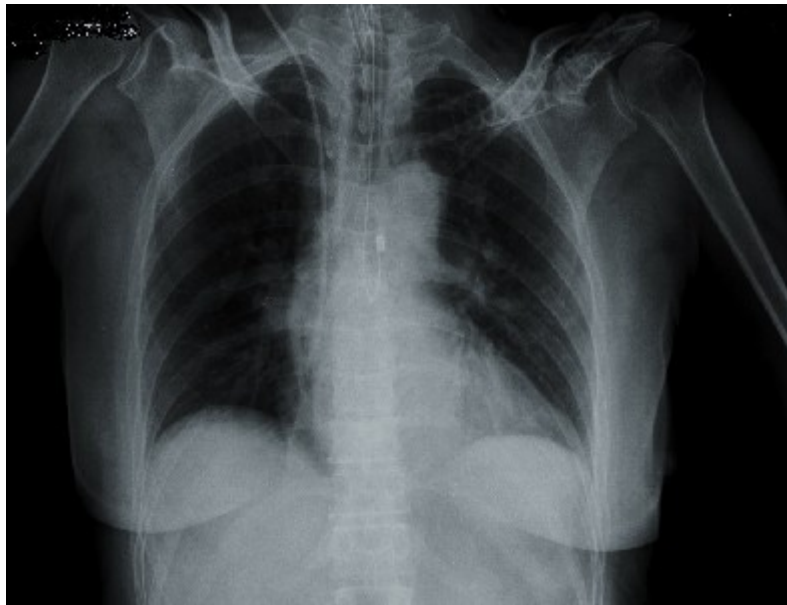
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Illustrations

Illustration 1

CRX NGT position



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Reviews

Review 1

Review Title: Review of "Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report"

Posted by Dr. Marco Luchetti on 13 Mar 2011 02:39:10 PM GMT

1	Is the subject of the article within the scope of the subject category?	Yes
2	Are the interpretations / conclusions sound and justified by the data?	No
3	Is this a new and original contribution?	No
4	Does this paper exemplify an awareness of other research on the topic?	No
5	Are structure and length satisfactory?	No
6	Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?	Yes
7	Can you suggest any reductions in the paper, or deletions of parts?	No
8	Is the quality of the diction satisfactory?	No
9	Are the illustrations and tables necessary and acceptable?	Yes
10	Are the references adequate and are they all necessary?	Yes
11	Are the keywords and abstract or summary informative?	No

Rating: 2

Comment:

The paper is very poorly written and the topic is not original. English language needs substantial revision.

The case report description is very short and fails to give relevant information about the NGT placement. Was it easy? or difficult? how many attempts? was the operator able to aspirate air or fluids? was it feasible to inject air? what was the "feeling" of the operator? I guess that NGT kinking as showed by chest x-ray would make aspiration and injection impossible. As I understand, the NGT was placed in the ED. It may be speculated that the procedure was done in emergency situation and hence not properly done and checked.

Chest X-ray main limitation is x-ray exposure rather than costs or time.

In my opinion, the best way to avoid NGT misplacement is to check accurately by first aspirating and then injecting. There should be an easy flow of air or fluid both on aspiration and injection.

Competing interests: None

Invited by the author to make a review on this article? : No

Experience and credentials in the specific area of science:

More than 15 years of ICU work.

Publications in the same or a related area of science: No

How to cite: Luchetti M.Review of "Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report"[Review of the article 'Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report ' by].WebmedCentral 1970;2(3):REVIEW_REF_NUM584

Review 2

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

Posted by Dr. Umashankar Lakshmanadoss on 06 Mar 2011 06:33:48 AM GMT

1	Is the subject of the article within the scope of the subject category?	Partly
2	Are the interpretations / conclusions sound and justified by the data?	Partly
3	Is this a new and original contribution?	No
4	Does this paper exemplify an awareness of other research on the topic?	No
5	Are structure and length satisfactory?	Yes
6	Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?	No
7	Can you suggest any reductions in the paper, or deletions of parts?	No
8	Is the quality of the diction satisfactory?	No
9	Are the illustrations and tables necessary and acceptable?	Yes
10	Are the references adequate and are they all necessary?	Yes
11	Are the keywords and abstract or summary informative?	Yes

Rating: 3

Comment:

Article is poorly written with spelling and grammatical errors.

This so called "Whoosh test" is not new. It is in clinical practice fro years. I don't see any new information in this case report. Authors also mentioned that CXR is "high cost". I doubt that in any part of the world.

Competing interests: None

Invited by the author to make a review on this article? : No

Experience and credentials in the specific area of science:

Working as a faculty in Hospital Medicine with Johns Hopkins University

Publications in the same or a related area of science: No

How to cite: Lakshmanadoss U. Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report [Review of the article 'Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report ' by]. WebmedCentral 1970;2(3):REVIEW_REF_NUM546

Review 3

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

Posted by Dr. Silvia Scelsi on 28 Feb 2011 06:22:42 PM GMT

1	Is the subject of the article within the scope of the subject category?	Yes
2	Are the interpretations / conclusions sound and justified by the data?	Yes
3	Is this a new and original contribution?	No
4	Does this paper exemplify an awareness of other research on the topic?	Yes
5	Are structure and length satisfactory?	Yes
6	Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?	No
7	Can you suggest any reductions in the paper, or deletions of parts?	No
8	Is the quality of the diction satisfactory?	Yes
9	Are the illustrations and tables necessary and acceptable?	Yes
10	Are the references adequate and are they all necessary?	Yes
11	Are the keywords and abstract or summary informative?	Yes

Rating: 5

Comment:

this article may be a start for the other research in the same field

Competing interests: no

Invited by the author to make a review on this article? : Yes

Experience and credentials in the specific area of science:

My experience in this area is about my job in the ICU.

Publications in the same or a related area of science: No

How to cite: Scelsi S. Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report [Review of the article 'Correct Placement Nasogastric Tube In Intensive Care Unit. A Brief Case Report ' by]. WebmedCentral 1970;2(2):REVIEW_REF_NUM525

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