António Egas Moniz
(1874-1955)

Nobel prize of Phisiology or Medicine
1949
Biography

• Born in Estarreja Portugal in 1874
• Studied Medicine in University of Coimbra and it was trained in Neurology in Bordeaux and Paris
• Became a Professor of Neurology in Coimbra in 1902
• Started in political career in 1903
• Moved to the University of Lisbon in 1911
• In 1920 he dedicated only to medicine and writing.
• Nominated for the Nobel Prize in 1928, 1930, 1937, 1944
Cerebral angiography

• Developed in 1927 by António Egas Moniz

• Form of angiography that provides images from the blood vessels in and around the brain, by injecting a dye into the blood vessels of the patient

• Egas Moniz also developed the thorotrast to use in the procedure

http://en.wikipedia.org/wiki/Cerebral_angiography
Leucotomy—social context

- In the early 1920’s there was an increase in patients residing in mental hospitals.
- Psychiatric therapies were getting more and more invasive, without long term results.
- Before the 1930’s several doctors experimented with novel surgical operations.
- Despite the present thought, during the period that this therapy was most used, doctors, patients and their families thought of it a viable alternative.

http://en.wikipedia.org/wiki/Lobotomy
http://www.nobelprize.org/nobel_prizes/medicine/laureates/1949/moniz-article.html
Leucotomy - Development

• The inspiration came from John Fulton’s presentation on the second International Congress of Neurology held in London in 1935.

• After frontal lobectomies two chimpanzees, Beck and Lucy presented drastic changes in behavior.

• During the discussion period of the talk, Moniz asked the authors if the procedure could be extended to humans suffering from mental illness.

• Three months after attending the talk, Moniz started his experiments with Leucotomy.

http://en.wikipedia.org/wiki/Lobotomy
Leucotomy- Development

- During the 1935 Congress several papers were presented underlining the importance of the frontal lobe in personality of subjects. In one of those panels Henri Claude said: “altering the frontal lobe profoundly alters the personality of the subjects”

http://en.wikipedia.org/wiki/Lobotomy
Leucotomy- Theoretical Basis

- Moniz thought that the brain of the mentally had neural pathways caught in fixed and destructive circuits leading to “predominant obsessive ideas”

- “To cure this patients it is necessary to destroy the more or less fixed arrangements of cellular connections that exist in the brain, and those relates to the frontal lobe”

http://en.wikipedia.org/wiki/Lobotomy
Leucotomy- First surgeries

• The first eight patients were trephined in the side of the skull and ethanol was injected in the “subcortical white matter of the prefrontal area”

• In the nineth patient they performed a surgery using a leucotome, which made a 1 centimeter diameter circular lesion in the white matter of the frontal lobe. Six lesions were cut into each lobe to obtain satisfactory results.

• In the first series twenty patients had the procedure done, and 18 patients in a second series. Moniz considered the results from the treatment a success, although he admitted that patients with deteriorated conditions did benefit from the procedure.

• Moniz publish his first results in 1936, which had much better acceptance than earlier trials.

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Leucotomy- Evolution

• Leucotomy was introduced in Italy in 1937 by Moniz. It was often used by the Italian physicians, so much that Amarro Fiamberti devised the first trans-orbital procedure in the same year.

• Inspired by the work of Fiamberti, John Freeman and James Watts developed the trans-orbital lobotomy, which was used for the first time in 1946.

• Before this Freeman and Watts had improved the leucotomy method, using more precise surgical skills and more efficient in removing white matter, which they named “Freeman-Watts standard lobotomy”.

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Lobotomy- Was it a cure?

England and Wales
1942-54

<table>
<thead>
<tr>
<th>Documented cases</th>
<th>10,365 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>n° of patients that had a second operation</td>
<td>762 patients</td>
</tr>
<tr>
<td>Recover and greatly improved</td>
<td>42 %</td>
</tr>
<tr>
<td>No change</td>
<td>25%</td>
</tr>
<tr>
<td>Got worse</td>
<td>2%</td>
</tr>
<tr>
<td>Died</td>
<td>4%</td>
</tr>
</tbody>
</table>

- In the USA, approximately 10000 patients underwent lobotomy in August 1949.
- In the 1930’s lobotomy was greatly accepted as treatment for schizophrenic diseases, due to lack of other therapy with the same outcome.

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http://www.nobelprize.org/nobel_prizes/medicine/laureates/1949/moniz-article.html
Lobotomy- Alternative treatments

• In 1952 it development of chlorpromazine in 1952 made the use of lobotomy as a treatment for schizophrenic patients unstimulating.

• The number of lobotomies made after the 1960’s reduced drastically.

• Other psychiatric diseases followed with different course of treatments, more beneficial for the patient.

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Lobotomy- Controversy

• Snorre Wohlfahrt (1947) – “...still to imperfect to enable us, with it’s aid, to venture on a general offensive against chronic cases of mental disorder” - Swedish psychiatrist

• After hard critics from one very important soviet psychiatrist, Vasily Gilyarovsky, the Soviet Union banned the procedure in 1950 calling it “contrary to the principles of humanity” and that “through lobotomy an insane person is changed to an idiot”

• Critics of the lobotomy procedure grew after some very famous cases became public

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Lobotomy- In Numbers

- In the USA approximately 40000 people we lobotomized
- 17000 lobotomies were performed in the United Kingdom
- Scandinavian hospitals lobotomized 2.5 times more people per capita than the United States.
- Between 1944 and 1966 4500 people were lobotomized in Sweden, they were mainly women.
- Denmark has a total of 4500 known lobotomies performed, mainly from women and retarded children.

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http://www.nobelprize.org/nobel_prizes/medicine/laureates/1949/moniz-article.html
Thank you for your attention!