

Thrombolysis performed within three hours following stroke reduces disability and costs: an economic model to estimate savings

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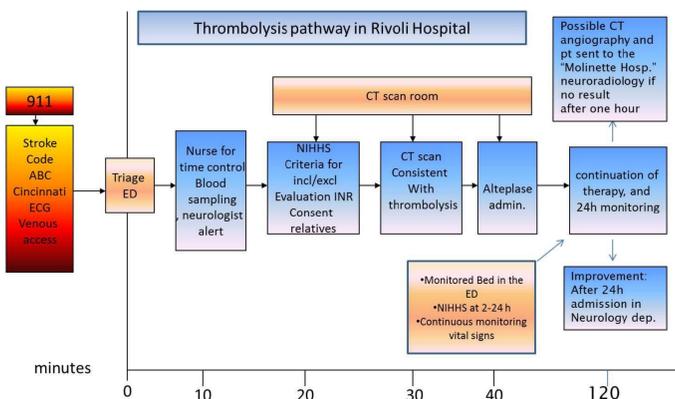
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 FOR DECISION MAKING

Purpose

To estimate the savings resulting from reduced disability in patients treated with thrombolysis in the Rivoli Hospital.



Background

Stroke is the second leading cause of death and the leading cause of disability worldwide. In Italy, there are approximately 200,000 new cases each year, of which about 80% are ischemic. Thrombolysis performed within three hours of an ischemic event reduces disability. Since 2005, emergency staff in the “Infermi di Rivoli” Hospital (participating center in SITS trial, Safe Implementation of Treatments in Stroke) have been trained to utilize novel therapy protocols, thereby expediting treatment for these patients.

Materials and Methods

To calculate savings arising from the thrombolytic treatment in Rivoli hospital we extracted data about therapy efficacy in reducing disability post-stroke (after 18 months) from the third international stroke trial (IST-3).

To assign costs according to the degree of disability, we used recent national and international cost of illness studies for medical, non-medical and indirect costs accrued following an ischemic event.

We've also added the costs of drug administration in the cohort of patients treated with thrombolysis.

These data, thanks to an economic model specifically designed, have allowed us to estimate the potential savings from early thrombolytic treatment.

OHS score	Alteplase group	Control group
0	11%	7%
1	12%	13%
2	12%	11%
3	12%	12%
4	7%	10%
5	9%	10%

Results

Conclusions

Since thrombolytic therapy was introduced in the **Rivoli Hospital**, **146 patients** received efficient stroke treatment due to improved therapy protocols resulting from the intensive training of internal staff.

In addition to the significant improvement in quality of life, the reduced disability observed in patients following timely stroke treatment has resulted in a total savings of **€ 218,592.50 since 2005**.

The significant savings generated within the city area served by the Rivoli Hospital (population 364,234) as a result of more expedited treatment for a single neurological disease, has important implications regarding the implementation of similar treatment protocols at larger institutions.

