

## Tomaso Casoni (1880-1933): A Pioneer Remembered

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### Background

Tomaso Casoni (Figure 1A &1B) earned his fame by the test named after him [1]. Casoni was first to describe a test for immediate allergic reaction to hydatid fluid injected into the skin (Figure 2). This was in a time when hydatid disease caused by infection by *Echinococcus granulosus* was endemic in Europe, Africa and the Middle East in addition to many other parts of the world. Therefore such finding was of great clinical significance at that time. However, as the skin test was increasingly replaced by other serological diagnostic methodology [2], the credit to Casoni has been fading away from the memory of medical and scientific community except for a few old Italian monographs [3-5]. There is a paucity of information on his life and works in the English literature even in the specialized web pages dedicated to history of science and medicine. A search using "Tomaso Casoni" as the search term on the internet's two most commonly used search engines (Yahoo and Google) failed to find any substantial material. Thirty years ago, I was amongst a group of junior medical students in Tripoli, Libya. We learned for the first time about Casoni and his test from a small print foot note in "Bailey and Love's Short Practice of Surgery". We were so pleased that such a major textbook mentioned the institution where we were studying though its name changed to "Tripoli Central Hospital" following the independence of Libya. This event stimulated the interest of many in the history of science and medicine .

### Casoni's Life, Education and Work

Casoni was born on the 27th of August 1880 in the city of Imola, near Bologna, Italy. His first name is spelled "Tomaso" and "Tommaso" in different sources [3-7]. He studied at the Liceo Torricelli College of Faenza [6]. His colleague Gingni remembered Casoni as being an active participant in the vibrant student life, and a conscientious and disciplined student in academic circles. An encounter that had widespread echo in the city was recalled. Eleven students of the third school appealed to the Ministry of Education regarding the inadequacy of teaching of Latin and Greek. "The act was bold, but the motive was justified by the desire to have a more successful teaching in these two important areas" Gingni stated. The Minister, Guido Baccelli, in an act of insubordination threatened to cancel all year scholarship. "It was the ability of Casoni through the involvement of Senator Codronchi that could mitigate the hot intentions of the Minister Baccelli". He added. When he completed his studies in the academic year 1899-1900, It was widely believed by his fellow students after the afore mentioned event that Casoni will definitely register in the Faculty of Law, but to their surprise, they found out that he applied to the Faculty of Medicine instead.

In the University of Bologna [3], Casoni was a student of the famous Italian clinicians of that time such as Murri, Zagari and Zoia. He was described as one of the most visible students in joyous brigades, the most studious at the lessons and more diligent in regularly passing his examination. The student club "La Boheme" witnessed a lot of late nights by Casoni. However, late nights too were spent on revision of Anatomy in self-run revision classes in a style similar to today's TV shows of questions and answers. Casoni was also very active in the political life of the country at student level.



Figure 1 Two portraits of Professor Casoni, Obviously A is at a younger age than B. The sources did not indicate the date of the photos. Courtesy of Citta Di Imola, Servizio Biblioteche e Archivi. Imola, Bologna, Italy.

He defended his MD thesis at the Faculty of Medicine and Surgery in the University of Bologna on 2nd of July 1906 [7]. The title of his thesis was (Ricerche ematologiche sperimentali sull'emostasi preventiva nelle operazioni chirurgiche sugli arti col metodo Esmarck-Silvestri) i.e. Experimental haematological research on the prevention of post operative haemostasis in the limbs with the Esmarck-Silvestri method [8]. Between 1906 and 1910, he held several competitive assistant posts. In 1910, he moved to Sassari, Sardinia to pursue his interest in researching human hydatid disease. In the same year, he described his intra-dermal test for the diagnosis of hydatid disease in humans [1]. Between 1908 and 1912, he published several research papers mainly on infectious diseases such as malaria and syphilis in addition to his original interest in thromboembolic disease [1, 8-12]. Casoni moved to work in Tripoli shortly later. There is no clear indication of the motive for a young and promising physician to move to Tripoli although health issues could have contributed. It was argued that with his credit he could have aspired to the highest positions in an academic career. However, undefined "circumstances" led him to practice medicine and research in Tripoli. He spent two

decades as the chief medical officer in its new hospital mostly known as L'Ospedale Coloniale Vittorio Eumanele III (Figure 3). The hospital was named after the King of Italy. Casoni did not participate in the 1915-1918 war as he was required to stay for the hospital services in Tripolitania. Apparently, an assistant Dr. Fusco took part and lost his life. There are no reports on the nature of the work he had done in Tripoli during his stay other than the fact that he was a practicing senior physician in the hospital. However, in 1931, he published a paper on the treatment of hepatic amoebic abscess [13].

Tomaso Casoni died on 6th September 1933 at relatively young age of 53 years. He succumbed to an aggressive form of renal disease as a late sequel of childhood tonsillitis. Perhaps it was the reason for his exclusion from military service in the Great War and his decision to move to the subtropical climate of Tripoli to pursue his medical career. However, 50 years later the beginning of the atherosclerosis produced signs of renal insufficiency. He had to retire and return to his hometown of Imola. Beyond the family members, there were only a few doctors (mainly who looked after him in his short hospital stay). Only a few had been aware of his return home after so many years of absence.



Figure 2 The typical skin reaction in a positive Casoni Test.



Figure 3 An overview of the surgical department of L'Ospedale Coloniale Vittorio Eumanele III di Tripoli where Casoni worked in the first half of last century courtesy of Dr. Mohamed Jarrari, Director General of the Centre for Libyan Studies, Tripoli, Libya.

### The Casoni Test

The Casoni intradermal test has been for a long time a principal diagnostic tool for suspected hydatid disease [1,2]. The medical literature is rich with evidence of the central place occupied by this test in the diagnostic work up for patients with suspected hydatid disease. Indeed, newer investigations were compared with Casoni's test as an established test. Casoni published the results of his research in a journal of limited distribution although he was the first to describe such an important scientific discovery [1]. Some sources associate Casoni's work solely with Tripoli Hospital. However, as outlined above Casoni described his test well before his move to Tripoli which must have happened around 1913-1915. Possibly due to the war circumstances, his discovery that dates back to 1911 was not fully recognized immediately. In a Congress of Internal Medicine held in Trieste in 1920, Tomaso Pontano, a physician from Rome highlighted the practical value of the Casoni "reaction" in the confirmation of hydatid disease. Antonio Gasbarrini gave it more publicity. Interestingly, despite all the medical literature in English referring to the test by its name as Casoni test, some German sources call it Casoni-Borreti test in an analogous situation to the Graves-Basedow disease. No reliable verification of an adequate explanation for this could be found.

### Honoring of Tomaso Casoni

It seems that probably for reasons of nostalgia alone, he would have liked to return home. In 1921, Casoni was offered the position of chief medical officer of Cesena Hospital. "Although, this offer would not have been much to the Casoni's merits, but it had a moral significance" [3]. Immediately after his death, an appropriate obituary was published in 1934 [14] and a biography has been updated more recently [15]. The Medical-Surgical Society of Romagna organized a symposium in 1938 on Casoni test to commemorate Casoni and his work in Imola (Figure 4A). Speakers on the theme "The reaction of Casoni" included many academics of that era. The Municipality of Imola responded to the initiative of The Medical-Surgical Society of Romagna and promised to honor the memory of its son by dedicating his name to a street or an institute in the city. The promise was finally realized on 30 October 1960 in a major event (Figure 4B). A street near the Civic Hospital was dedicated to his name (via Tomaso Casoni). On the house where he was born in Cavour Street, a plaque under a bronze bust was put (Figure 5). It stated "The name of Tomaso Casoni will remain in the history of medicine next to Valsalva and other eminent physicians of the region". The University of Sassari still proudly counts him amongst the pioneers who honored the name of the University and the city [16-17].

Tomaso Casoni's description of his skin test was a major diagnostic advance at that time and remained so for many decades to come. This doctor from Imola is almost forgotten and his name has almost faded from the world's English medical literature. As he spent most of his professional life in Tripolitania, he fully deserves this tribute and very appropriately so in Libyan Journal of Medicine. Libya became a single political entity in 1934 just a year after he passed away to leave a legacy full of originality and clinical relevance.



Figure 4 The cover pages of the two small booklets issued to commemorate the life and work of Tomaso Casoni.

Table 1 Chronology of Tomaso Casoni

Date	Events
1880	Born in Imola, Near Bologna, Italy
1889-90	Completed secondary Education
1900-1906	Graduated and completed his Doctorate of Medicine, University of Bologna
1906-1910	Assistant training posts in Bologna
1910-1911	Assistant in Sassari, Sardinia
1912	Published his famous paper on the skin test for diagnosis of hydatid disease in humans
1912/13	Traveled to Tripolitania, "Primary Doctor" at the L'Ospedale Coloniale di Vittorio Eumanule III (currently known as Tripoli Central Hospital)
1921	Offered a senior doctor post in Cesena but was not taken up by him
1931	Published on the medical therapy of hepatic amoebic abscess
1932	Took early retirement of health grounds and returned to his home town of Imola, Italy
1933	Died
1938	First tribute: The Roman Medical and Surgical Society
1960	Second Tribute: Imola City
2008	Third Tribute: This review

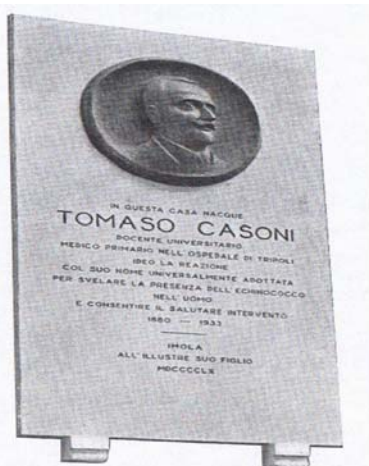


Figure 5 Photo of the plaque erected by the Municipality of Imola at the house where Casoni was born in Imola commemorating his life and works. Courtesy of the Citta Di Imola, Servizio Biblioteche e Archivi. Imola, Bologna, Italy

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