

Girolamo Fabrici d'Acquapendente's "nasogastric tube" Strategies for artificial nutrition between the XVI and XVII centuries

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Abstract. The contribution focuses on the idea proposed by Girolamo Fabrici d'Acquapendente to use a nasogastric tube to feed patients who are unable to open their mouths and independently take food and drinks.

Key words: Girolamo Fabrici d'Acquapendente, nasogastric tube, artificial nutrition

It is well known that artificial nutrition is currently used in those patients who are unable to feed themselves independently. The history of this technique is quite antique (1-6). Besides some purely empirical practices, we focus now on procedures designed during the Modern Ages, when scientific revolution started to settle on medicine. The first methods of artificial nutrition, supported by a renewed context of anatomical knowledge, were proposed by two members of Padua's medical school. As far as we are able to reconstruct, Girolamo Capodivacca (d.o.d. 1589) was presumably the first one to use a tube to introduce liquid food into the oesophagus (7). Another, less known or analysed, method was proposed by the surgeon and anatomist Girolamo Fabrici d'Acquapendente (circa 1533-1619) in his *Opera chirurgica*, developed between the late XVI and the early XVII centuries.

Girolamo Fabrici d'Acquapendente, whose 400th death anniversary has just been celebrated, held the Surgery and Anatomy Chair of the University of Padua from 1565 and taught these disciplines for about fifty years, until almost the year of his retirement. During his magisterium, the stable anatomical theatre was built. It was inaugurated in 1595 and can still be visited nowadays at Palazzo del Bo, the historic site of the University of Padua (8). Among his works we

remember the *De visione De voce De auditu* (1600) (9), the *De formato foetu* (1600) (10) and the *De venarum ostioliis* (1603) (11). In addition to the anatomical field, Fabrici also distinguished himself in the surgical field: he was *par excellence* the surgeon of the golden age of Padua's medicine (16th-17th centuries). All his surgical knowledge was collected in the aforementioned work *Opera chirurgica*, of which several editions have been conserved starting with that of 1619. This work is divided into two parts: the first focuses on the various pathologies that can be treated with surgery, while the second reviews the different types of operations and surgical operations, dividing them according to the various anatomical districts of relevance (12).

By exposing the various operations related to the teeth (13), Fabrici briefly dwells on the inability of some patients to chew - and, consequently, feed themselves naturally - or simply who present difficulties or inability to open their mouths (presumably due to tetanus induced trismus, neurological trismus, trauma, etc.) (*De dentium Chirurgiis, caput XXXII*) (14-16). In relation to this situation, Fabrici puts forward the hypothesis, presumably not turned into practice, of being able to use a curved silver cannula, which, passing through a nostril, flows directly into the pharynx, close to the palate and introduces liquid food, or possibly

medication, that the patient may swallow (14–16). The surgeon describes the device and its use as follows: “*you come to the patient’s help, with a method I have recently imagined; this method consists in the use of a small, curved silver cannula, through which we introduce the food in liquid form directly into the palate, passing through the nostrils*” (14). Fabrici believed that this medical device and this method could represent a possible innovation even if he admitted that it was possible to meet the danger of suffocation (extended original Latin text: “*Vel tandem succurritur modo a me nupertimè excogitato et est, ut per fistulam argenteam paulò recuruatam per nares in palatum liquidum cibum immirtamus et probus (uti opinor) est modus, praecipuè si cannula agnino intestinulo obuoluatur nisi fortè eam secum afferat difficultatem, ne cibo è naribus cadente epiglottis in laryngem recuruetur, quamobrem suffocationis periculum immineret: quem modum (ut libere, et ex animo dicam) non fui expertus, nam si suffocationis periculum aliquod imminere ex ploratum fuerit, hic modus abigendus erit; sin secus, recipiendus, quod in sano homine experiri licebit*”) (14).

It is however interesting to underline how, although this practice cannot be defined as a surgical procedure in the strict sense, at the time of Acquapendente every “manual” intervention on the patient was up to the *chirurgus* (surgeon) and not to the *medicus physicus* (physician) who, in order to make the diagnosis and prescribe drugs, simply felt the pulse and “examined” the urine. In fact, the gap between a purely intellectual medicine and a practical and manual medicine even if cultured, at the time, was still particularly strong.

What is striking about Fabrici’s proposal is the precise intent to take care of the patient through all the possible and technically permitted medical strategies of his time, effectively outlining a fully comprehensive treatment of the patient.

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