

Are there still myths in -or associated with- transfusion?

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Dear Sir,

As previously described in relation to transfusion-transmitted infections (TTI)¹, the noun "myth" is associated with several concepts. Broadly, it has two major ethnological meanings. One refers to reported stories and focuses more on the wording used to report the story, than on the story itself; this theory, introduced by pioneers such as Durkheim and then Mauss, was subsequently magnified by Levi-Strauss (*Myth and Meaning*, 1978). The other meaning is more oriented towards spirituality as the root of civilisations: it was intuited by Freud at the end of his life (*Totem and Taboo*, 1913) but fully developed by Girard. Girard considers that humans are ruled by "mimetisms" and have adopted the need for "scapegoats", inherited from the Hebraic/Judaic cults (III Lev XVI, 5-10; 21-22). This theory stipulates that every society needs to protect the group by laying all its ill on one individual; to rid itself of guilt towards this sacrificed individual, he/she must first be set apart from the society because of a marked difference (being truly guilty of a crime, or pushed to commit one e.g. incest, as found in some African cultures), and secondly must endorse darkness but also some part of divinity². The sacrificed individual (the scapegoat) escapes with the burden of the sin wiped out from the group, making the rest of the group free of this sin/guilt, and blessed by the divinity. This worked well, as long as the scapegoat was unanimously acknowledged as "guilty" as opposed to "innocent". There was thus a need for "violence" in the process to stigmatise the scapegoat with this part of darkness and to pacify the rest of the group (*La Violence et le Sacré*, 1972; *Le Bouc Emissaire*, 1982). After the era of Moses, human sacrifices were progressively replaced by animal sacrifices: all the sacrifices had to be as close to innocence as possible (young, virgin people; pure, white animals)³. Sacrificial animals also led to the precise rites applied by the Jews to scapegoats (with the specific loading

of the peoples' sins onto the selected animals, leaving the place and hiding sins and guilt in remote desert places). This was broken by Christ's condemnation by the Jewish Establishment: "*Now Caiaphas was he, which gave counsel to the Jews, that it was expedient that one man should die for the people*" (Jn 18, 14), a return to a human sacrifice. Girard insists that Christ was recognised innocent (by the fact of sharing the death penalty with other criminals and since Roman soldiers executed them [Mt 27, 54]): this is a reversed "model" because here, God himself shed blood to save humanity. As the scapegoat was innocent, the guilt would have been transferred back to the group; however, the last piece of the theory comes with the "Revelation" (or "Apocalypse") in which the immolated (innocent) Lamb's blood erased the sins of the rest of the group and groups to come. Girard's theory of the "universal scapegoat" "myth" differs fundamentally from that of Levi-Strauss.

How then can any "myth" theory apply to the practice of transfusion? One can consider three issues related to the commonest severe transfusion hazards. The first, TTI, has already been discussed¹, the second is overload accidents and the third is acute immunological complications. As said, there is no "story" in transfusion hazards and only the second definition of a "myth" - broadly referring to "a tale intended to be explanatory and that provides the grounds for a social practice, etc.", as opposed to "any fictitious story, or unscientific account, theory or belief" - applies [http://en.wikipedia.org/wiki/Religion_and_mythology]. Severe hazards definitely occur and there is no doubt on their relationship with transfusion or blood products. The "myth" is related both to the perception of the risk and to the way it is processed by the society (media, justice, regulatory affairs etc.) and possibly exploited by diverse lobbies and industry. There is a characteristic disproportion between the extremely low frequency of the event and its complete lack of tolerance by society, as

compared to the common acceptance or tolerance of similarly severe accidents that happen at much higher frequencies in health care, such as nosocomial (bacterial) infections and drug or food allergies. In France, for instance, society identified "scapegoats" (in particular politicians) after the "contaminated blood scandal" in the 1980s and is still debating on their real guilt or possible innocence: meanwhile the individuals sacrificed (guilty and innocent) have been set apart from their initial "groups" and charged with faults that cast them away from their initial roles. Evidence-based TTI-associated "myths" are included in Girard's concept; however, the other two transfusion associated-hazards are more conceptual and debatable.

To address those, one has to go back to the "mythology" of blood: since the beginning of humanity and worldwide this body fluid has been charged with considerable emotion and spirituality, as can be deduced from almost every reported cosmogony (which are all based on blood, except one: the Hebraic theory of the creation of the world)³. Furthermore, at all times in history -even in recent history- deities fed on human blood, and after deities were abolished, similar spilling of innocent blood was wrought at the hands of deity surrogates such as dictators, revolution leaders, terrorist sponsors, etc. Meanwhile, there is an all-time standard: blood is associated with life and death: the massive loss of blood leads to death while transfusion can reverse the situation. Furthermore, for about two millennia, the theory of "humours" postulated that blood-letting was a panacea to rid the body of all sorts of diseases (physical and even mental), while another all-time fear was suffocation (excess blood flow). Indeed, suffocation was so feared, that it led to cultural -having become religious- habits, i.e. the Kosher and Halal ritual bleeding of animals before consumption. The medical counterpart of this ancestral fear is one of the most frequent complications of blood transfusions nowadays, i.e. transfusion-associated circulatory overload (TACO). Of note, blood flow and suffocation are charged with religious feelings in the principal cults (anecdotally featured in Daudet's tale *"Les Trois Messes Basses"* in *"Les Lettres de mon Moulin"*, 1870), but are not really feared when applied to transfusion; the "myth" applies to blood itself, not to the transfusion practice. The same holds true, for

example, for ABO incompatibility accidents: indeed, these events are even more instructive because half of the "danger" comes from the patient (e.g. reactive antibodies against red blood cell antigens) but the other half originates from the blood (wrong antigen group). These cases, therefore, present with a triad of defects (human error, "bad" blood, "innocent" victims) and with the "violence" of the symptoms: in every other case, there is a death penalty for the "first innocent" i.e. the patient (the second "innocent" being the donor). Neither after the occurrence of TACO nor after an ABO-incompatibility accident is guilt laid on the blood, and -so far- there is no "myth". This means that there is not necessarily an association between the nature of blood and the fear of the practice of transfusion, since the commonest -albeit extremely rare- cases of fatality occur with "sinless" blood products, and the fear is recapitulated in the less probable event: an acute viral infection. It could be wondered why there is such a common sense of fear with regards to extremely rare viral infections and not to the more common bacterial infections. A possible answer could be that viruses appear more integral to the blood heritage, while bacteria appear linked to processing; in other words, the "purity" of blood itself is altered in the former and not necessarily in the latter case. There are many direct reports from the earliest history of transfusion and indirect reports on recent practices, for example, blood donor religious activists in India⁴, which indicate that profound feeling is the transmission of characters (for the good and the bad). Consideration should also be given to the incompatibility of characters (as clearly seen in Amazonian ethnology reports featuring Levy-Strauss's compatible "myths" with "stories" on common ancestry between bloody animals and humans) (*L'Histoire du Lynx*, 1991)⁵.

Fears of illness/darkness generate needs to assign guilt: society's response is to designate a scapegoat to protect the group (the system) and allow continuation of the process. This raises another issue related to the "myth" approach in transfusion: the source of blood itself. The protection of the group is to place the guilt on any benefit (paid donations) and vice versa, the relief from guilt is the re-emphasis of unpaid blood donations. One can even speculate as to whether "myths" are not necessary and/or useful for the continuation of blood donation, and whether

the rationality of our civilization is responsible for the defeat of ancestral "myths"; replacing these by modern "myths" such as those associated with goods and money would be a brake to blood donation and other donations.

In conclusion, blood-associated "myths" have been present from the very beginning of civilization and some -but interestingly not all- have been extended to the use of blood in medicine i.e. transfusion practices.

Conflict of interest disclosure

The Authors have no conflicts of interest regarding this essay. They wish to state that this essay reflects their own opinions and not necessarily those of their institutions and employers.

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