

Infection Control in a Far Far Away Galaxy: New and Alternative Learning Tool from Popular Culture to Improve the Antimicrobial Stewardship

Dear Editor,

Infection control still represents one of the most important issue in clinical practice, particularly in critically-ill patients. Indeed, it has to be considered as a mandatory approach in clinical practice for all healthcare workers, nonetheless it is one of the most difficult to learn and to apply. A good and significant methodology to acquire a state of mind focused on infection control during clinical practice should start early during the training of healthcare workers and should be carefully managed, likely using all possible and available learning tools. It should also involve patients and their relatives, aiming to minimize possible infection spread. Previously case studies from popular culture have been proposed as teaching tool for medical student, but possibly also for all those individuals having relation with healthcare facilities. More recently Star Wars series has been used as learning tool to focus on pathophysiology of the lung according to one of the most important character of Star Wars series, Darth Vader. Indeed Star Wars and related imaginary world holds some other important learning suggestions to emphasize another important feature of the tragic story of this popular character, or else the infection control after severe skin burn in one of its most popular character.^[1]

Infection still remains a leading cause of morbidity and mortality following burns,^[2] being related to poor wound healing and increased risk of scarring which may have a negative prognosis and functional impact on the patient. ^[2] Survival following burn improves with an early wound debridement surgery and skin replacement aiming to remove the source of wound infection and restore skin integrity with particular attention to aseptic condition.^[3] Critical factors previously being correlated to increased risk of developing burn wound infection (BWI) include age, percentage of total body surface area (TBSA),

presence of full-thickness burns, and presence of an inhalation injury that may contribute to tissue hypoxia reducing wound strength after healing and increasing the risk of infection.^[4] Among these comorbidities, fungal infection may have an important role on prognosis if not treated with an accurate clinical approach.^[5] In the specific case related to Star Wars series, Anakin Skywalker (the real name of Darth Vader before its evil change) during Star Wars Episode III, after a saber duel with his Jedi Master Obi-Wan Kenobi suffers traumatic amputations of both lower limbs and his left upper limb with burns, several wounds on the head and on the face with volcanic gas inhalation. All these events, according to reported literature data could clearly predispose to infections, with related increase in mortality.^[4,6] Nevertheless, in the above mentioned episode, in a relatively few time, the protagonist is assisted with a medical capsule and shortly after the rescue, he is taken in a surgical operative room. In this aseptic environment a quickly wound debridement surgery and skin replacement is performed by medical robots and finally a whole-body suit is dressed, with possibly some healing property for the skin and lung injury from volcanic gas, with a final surgical and clinical success.^[1] In the Episode IV of the movie series, 22 years later, we find Darth Vader (Anakin Skywalker) still dressing whole-body suit and most importantly still alive even if affected by chronic pulmonary disease. From a medical point of view, our villain not only may be considered an example of learning tool to underline some important aspect of acute and chronic respiratory failure,^[6] but also an important model of the efficacy of an early wound debridement surgery and skin replacement to minimize infection morbidities, with a long survival. Mainly, we think that there are two key factors in this “medical history”:

1. The use of sterile medical capsule on the site of the traumatic event that could be considered as a correct aseptic approach (hand hygiene, appropriated devices use) to critically-ill patients after a traumatic event,
2. Early surgical approach in aseptic and possibly hyperbaric chamber, to be considered as accurate and specific methodology to remove source of infection in aseptic conditions.

Both these two elements strongly suggest that standard hygiene precautions and a rigorous specialist approaches are fundamental methodologies to minimize risk of the infection and to ensure good prognosis of the patients in a far far away galaxy as on the Earth. Despite it would seem controversial, the use of a such kind of approach to infection control training, may help healthcare workers to target both automatic associative learning processes and conscious decision making, in addition to ensuring good

knowledge of all possible measure to prevent infections, as recently suggested.^[6] In conclusion, Star Wars, as any other subjects from popular culture should be considered as a really valuable approach and an alternative as well as entertaining platform for a plenary discussion with medical students on one of the most important topic in current medical practice: Infection control.

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