

Short Communication



Cinedentistry: Using Movies to Improve Students' Understanding of Oral Medicine

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Abstract

Background: Traditional methods in dental education, while foundational, may lack emotional and contextual resonance necessary for deep understanding. Integrating cinema into education—an approach termed ‘cinedentistry’—may provide a novel, engaging supplement.

Methods: This narrative study employed metaphorical analysis of three cinematic works—First Blood, Split, and Ran—to illustrate three complex oral conditions: Oral Potentially Malignant Disorders (OPMDs), Oral Lichen Planus (OLP), and Oral Opportunistic Infections (OOIs). We mapped clinical features of each condition against thematic and character elements of the corresponding films.

Results: Cinematic parallels provided meaningful metaphors: Rambo's trauma reflected the progression of OPMDs; the dissociative identities in Split mirrored the clinical diversity of OLP; and the power dynamics in Ran metaphorically illustrated the immune compromise underlying OOIs.

Conclusion: Framing oral diseases through cinematic narratives enhances student engagement, promotes retention, and fosters deeper understanding of disease processes. Cinedentistry represents a promising adjunct to traditional pedagogy.

Keywords: Cinedentistry, Oral medicine, Medical education, Cinema in education, Oral pathology, Teaching innovation

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Introduction

Clinical dental education faces the challenge of making complex pathological concepts more accessible and engaging for students. Traditional methods such as textbook-based learning and clinical case discussions are essential but may sometimes lack the emotional and contextual depth needed for deeper comprehension. One of the innovative ways to enhance dental education is integrating elements of popular culture—such as cinema—into the learning process.

Films, as powerful storytelling tools, can provide a compelling framework for understanding diseases by drawing parallels between narrative structures and pathological processes. The use of cinema to teach medicine was first reported in 1979¹. Although “Cinemedicine”, or more specifically “Cinemeducation”, has focused on professionalism, humanity, and communication skills², it has shown potential to cover a range of topics from basic sciences to clinical competencies³. Thus, this potential can go far beyond various fields of medical and dental education, including oral medicine, and the terms “Cinedentistry” or

“Cinedenteducation” can be proposed.

In the present study, we explored how three well-known films can serve as metaphors for three significant oral conditions: Oral Potentially Malignant Disorders (OPMDs), Oral Lichen Planus (OLP), and Oral Opportunistic Infections (OOIs). By associating the clinical features of these conditions with thematic and visual elements of these films, we aimed to present a novel approach to teaching oral diseases. This method not only makes learning more engaging but also fosters critical thinking by encouraging students to analyze diseases through a broader, interdisciplinary lens.

Case 1: Oral Potentially Malignant Disorders and Ted Kotcheff's First Blood!!

First Blood (Figure 1), directed by Ted Kotcheff and released in 1982, is an action-adventure film based on David Morrell's novel of the same name. It ranks as the 7th highest-grossing film globally. The storyline follows John Rambo, portrayed by Sylvester Stallone, a Vietnam War veteran who walks into Hope, Washington, after learning



about the death of an old comrade due to health issues linked to chemical agents used by the U.S. military during the Vietnam War.

Upon arrival, Rambo encounters the local sheriff, Will Teasle, who mistakenly assumes he is just a drifter. Teasle takes Rambo to the outskirts of town and orders him to leave. When Rambo decides to return, he is arrested. Inside the police station, he faces hostility and abuse from Teasle's deputies, particularly the cruel chief deputy, Art Galt. This mistreatment triggers painful flashbacks of Rambo's traumatic experiences in Vietnam.

In a bid for freedom, Rambo fights his way out and retreats into the nearby forest. Teasle quickly organizes a search party equipped with rifles, dogs, and a helicopter. Employing guerrilla tactics, Rambo takes down the deputies one by one and ultimately returns to town to unleash chaos and seek vengeance⁴. The narrative of *First Blood* can be likened to the progression of oral potentially malignant disorders into squamous cell carcinoma (SCC) (Figure 2), driven by carcinogenic factors that may lead to severe health complications and, in some cases, be fatal for patients.



Figure 1. First Blood: https://en.wikipedia.org/wiki/First_Blood



Figure 2. Verrucous leukoplakia and squamous cell carcinoma on the lower and upper lips, respectively

Oral potentially malignant disorders (OPMDs) refer to a range of oral lesions or conditions that carry an elevated risk of becoming cancerous⁵. Studies indicate that about 1–5% of the general population is affected by OPMDs, with the average age of diagnosis falling between 50 and 69 years—typically five years ahead of the onset of malignancy^{5,6}. The main predisposing factors include exposure to tobacco smoke and alcohol, nutritional deficiencies, various infections (viral, bacterial, and fungal), radiation, genetic predispositions, and immunosuppression⁶. There are over 20 different entities recognized as OPMDs, such as leukoplakia, erythroplakia, proliferative leukoplakia, candida leukoplakia, verrucous carcinoma, lichen planus, and oral submucous fibrosis^{5,6}. Research by Davaatsend et al. highlights a 5-year survival rate of 50.3% for patients with oral squamous cell carcinoma (SCC), while that rate drops to 38% for those diagnosed with tongue cancer⁷. Given these insights, Rambo's character in the film can serve as a metaphor for the experiences associated with OPMDs. The challenges he faces, fueled by the traumas of the Vietnam War, parallel the dangerous behavioral shifts that can arise in individuals predisposed to OPMDs. The insults and harassment he endure from the sheriff and his associates mirror the predisposing factors that can provoke malignant changes in these disorders. In essence, utilizing Rambo's narrative can enhance the teaching of concepts related to oral potentially malignant disorders, promoting more effective and memorable learning experiences for students.

Case 2: Oral Lichen Planus and M. Night Shyamalan's Split!!

Split (Figure 3) is a 2016 psychological horror film directed



Figure 3. Split: [https://en.wikipedia.org/wiki/Split_\(2016_American_film\)](https://en.wikipedia.org/wiki/Split_(2016_American_film))

by M. Night Shyamalan and starring James McAvoy, Anya Taylor-Joy, and Betty Buckley.

Just outside Philadelphia, three girls: Claire, Casey, and Marcia, are waiting in Claire's father's car to be taken home from a birthday party. They are abducted by Kevin Wendell Crump, who locks them up in a hidden underground lair beneath the Philadelphia Zoo. Kevin has dissociative identity disorder linked to his history of childhood abuse. He has been coexisting with his 23 different identities for several years with assistance from his therapist, Dr. Karen Fletcher. Towards the end of the movie, Kevin adopts his final identity, known as "The Beast," who is a brutal creature that scales walls, deflects bullets, and ultimately murders two of the kidnapped girls with his hands. Only one girl is left alive by the beast because of the scars he observes all over her body. The scars reveal that both of them experienced abuse in their childhood⁸.

The plot of this movie and Kevin's character can be compared to the traits of a condition called Oral Lichen Planus.

Oral Lichen Planus (OLP) is a long-lasting, immune-related disease. Most OLP patients are middle-aged (over 40 years), and there is a sex preference for females, with a female-to-male ratio of 2:1^{5,9}. The occurrence of OLP has been estimated to be 0.1-2.2% in the general population.³ It can appear alone or in combination with skin or other mucosal involvement⁹. The most commonly affected area in the mouth is the buccal mucosa, followed by the tongue, gums, palate, and vermilion border⁵. OLP comes in several subtypes that have different clinical appearances and symptoms, including reticular, papular, annular, plaque-like, erosive/atrophic, bullous, ulcerative, and pigmented (Figure 4)^{5,9,10}. This condition has also been classified as an oral potentially malignant disorder (OPMD)⁵. The risk of cancer has been estimated to be between 0.4% and 3.7%. Malignant changes often arise after 10 years, particularly in erosive and ulcerative forms^{5,9}. It is crucial to understand that psychological stressors significantly contribute as a risk factor in the onset of OLP and its severity¹¹.

Based on the information provided, Kevin can be seen as a metaphor for OLP. Just as Kevin had various identities with different names and traits, OLP also has 8 clinical forms with different names, features, symptoms, and complications. Like Kevin, OLP can lead to more serious



Figure 4. Erosive, ulcerative, annular, and reticular types of oral lichen planus on the buccal mucosa

issues influenced by psychological stress. Moreover, similar to the character of "The Beast" in the film, OLP can also develop into a severe and life-threatening cancer. Therefore, it seems that utilizing the story of this movie could be beneficial in effectively teaching topics related to oral lichen planus and fostering a more lasting understanding for students.

Case 3: Oral Opportunistic Infections and Akira Kurosawa's *Ran!!*

Ran (Figure 5), which means "chaos or tumult", is a 1985 epic historical action-drama film directed by the legendary Akira Kurosawa. In medieval Japan, Hidetora Ichimonji, a powerful warlord, decided to divide his territory among his three sons: Taro, Jiro, and Saburo. His eldest and middle sons (Taro and Jiro) agreed with this decision and promised to support their father for his remaining days. However, Saburo, the youngest son, disagreed with them, arguing that there was little likelihood the three brothers would remain united. Insulted by his son's audacity, the warlord banished the outspoken Saburo. Finally, he gave his land and authority to Taro and Jiro. But as Hidetora began his retirement, he quickly realized that his two eldest sons were selfish and had no intention of keeping their promises. The loss of the lord's power and the strengthening of his two sons led to tumult and war. After that, Hidetora found that only the banished Saburo could save him¹². The story of this movie is very similar to the etiopathogenesis of opportunistic infections in the body, including the oral cavity. An oral opportunistic infection (OOI) is initiated by resident host flora or exogenously acquired pathogens and is most frequently seen in patients with weakened immunity, changes in the microbiota, or damage to the epithelial tissue (Figure 6)¹³. It can also be



Figure 5. *Ran*: [https://en.wikipedia.org/wiki/Ran_\(film\)](https://en.wikipedia.org/wiki/Ran_(film))



Figure 6. Mucormycosis as a chronic, solitary, and destructive ulcer on the hard palate in a diabetic patient

associated with serious morbidity or even mortality¹⁴. There are several pathogens that are linked to the OOs, including numerous bacteria, yeasts (such as mucormycosis), viruses, and parasites¹³. Herpes simplex virus and *Candida albicans* are among the most common causes of OOs and can present a broad range of clinical features such as erosive, ulcerative, vesicular, plaque-like, or papular lesions in the oral cavity^{13,15}. Based on the above-mentioned finding, the premature and hasty delegation of power by Hidetora can be considered equivalent to the weakness of the human's immune system, which led to the outbreak of his two sons, Taro and Jiro. These two opportunistic guys can be considered equivalent to herpes simplex virus and *Candida albicans*, which are among the most common pathogens in OOs. The desperation and misery of Hidetora depicted in the film are similar to the complications and disabilities that manifest in different clinical presentations as a result of OOs. In this regard, it seems that referring to the story of this movie can be useful in better teaching topics related to opportunistic infections and creating more lasting learning for students. It is demonstrated that movies stimulate discussions and reflections, which is a part of an active learning process². Therefore, in addition to entertainment, this can also be used as an opportunity in educational matters, which requires the creativity and innovation of educators.

Discussion

The portrayal of dentists in cinema has historically evolved from caricature to a health care professional¹⁶. On the other hand, dental horror, including dental violence, dental disease, and the legacy of the Tooth Fairy folk tale, has been a theme in some of the movies¹⁷. Moreover, there is a negative picture of dentists in some of the movies, being associated with sexual misconduct, crime, and an unfavorable comparison with medicine¹⁸. However, this is not all about dentistry and cinema: Dentists can use cinema as an effective tool for dental education.

The most popular method of cinemedicine or cinemeducation includes screening a film for medical students, followed by discussing educational tips¹⁹. We, however, tried to use the narrative structures in cinema, which can reflect the progression of diseases, making films an effective analogy for understanding oral pathologies.

The three oral conditions discussed in this article share intriguing similarities with different cinematic genres and character arcs.

The systematic review and thematic analysis conducted by Darbyshire and Baker (2012) shed light on the use of cinema in medical education and highlighted that films can serve as effective educational tools across various medical domains. For instance, a scene from *Doctor in the House* (1954) was used to illustrate paternalistic attitudes in medicine, while Wit (2001) facilitated ethical discussions on palliative care and end-of-life issues³. Another systematic review conducted in 2024 evaluated the impact of using films and TV series as educational tools in medical education. The study concluded that their use enhances students' learning experiences, fosters deeper engagement with complex topics, and facilitates the development of critical thinking skills. It suggested that integrating films and TV series into medical education can be an innovative and effective teaching strategy¹⁹.

To the best of our knowledge, there is no similar article in the literature using scenarios and characters of famous movies to describe the nature and clinical characteristics of oral conditions. Thus, our paper represents an innovative method in the field of cinedentistry, with much potential for future work. By linking these oral diseases to cinematic narratives, students can develop a deeper appreciation of their clinical presentations and progression. This method enhances retention by transforming abstract concepts into memorable, relatable stories. Furthermore, it encourages interdisciplinary thinking, bridging the gap between medicine, humanities, and patient-centered care.

Conclusion

The integration of popular culture, such as films, into dental education provides an innovative approach to teaching complex disease processes. By framing oral diseases within the context of cinematic storytelling, educators can create more engaging and impactful learning experiences. This approach not only aids in knowledge retention but also fosters a broader understanding of how diseases evolve, how they affect patients beyond their clinical manifestations, and why early diagnosis and management are crucial. Future educational strategies should explore similar interdisciplinary methods to enhance learning and student engagement in the medical and dental fields.

Artificial Intelligence Use Disclosure

The authors declare that no artificial intelligence (AI) or AI-assisted technologies were used at any stage of the research, analysis, visualization, or writing of this manuscript. The authors assume full responsibility for the entirety of the content.

Authors' Contribution

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