


Comparison Between Topical Therapy And Oral Therapy In Patients With Chronic Suppurative Otitis Media

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Article Info	ABSTRACT
Keywords: Suppurative Otitis Media, Topical Therapy, Oral Therapy.	suppurative otitis media (CSOM) is a middle ear infection that requires effective treatment to prevent serious complications. Treatment of CSOM involves two main methods, namely topical therapy applied directly to the area of infection to relieve local symptoms such as discharge and pain, and oral therapy that works systemically through the bloodstream to treat more extensive infections. This study uses the Literature method Review with Narrative design Review, collecting data from online sources such as Google Scholar and E- Perpustakaan with the keywords " Chronic Suppurative Otitis Media," " Topical Therapy," and "Oral Therapy." The literature reviewed was limited to journals published in the last five years (2019–2024) to ensure the relevance of current data. The review results showed that topical therapy is more effective for local symptoms, while oral therapy is more suitable for cases with systemic complications. A combination of both may be an optimal choice depending on the severity of CSOM and the patient's response to treatment.
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INTRODUCTION

Suppurative otitis media chronic (OMSK) or the usual called sucks is inflammation chronic ear middle with perforation of the tympanic membrane and history go out Secret from ears (otorrhoeae) that continue continuously or is lost arise and usually followed with disturbance hearing (2)

There is a number of management that can performed on suppurative otitis media chronic (CSOM) Therapy Medication that is Use drugs For control infection and inflammation as well as Therapy Antibiotics that is with Use antibiotics For overcome infection. In addition, there are also actions surgery, such as tympanomastoidectomy, can become choice in management of OMSK. (5)

Antibiotic ear drops (often combined with dexamethasone) accompanied by aural toilet is management conservative line The first effective in OMSK patients. Group quinolone is antibiotics most recommended topical with reason Quinolone reported effective against Pseudomonas aeruginosa, bacteria most common in OMSK patients and is not cochleotoxic and also vestibulotoxic, as can be occurs in antibiotics aminoglycosides. Antibiotics systemic Can just not enough effective compared to therapy topical Because factor access Where the

difficulty antibiotics systemic For reach concentration effective on ear area middle. Compared antibiotics topical, antibiotics systemic not enough effective For overcome otorrhea after 1-2 weeks therapy. (6)

suppurative otitis media (CSOM) is one of the most common middle ear infections and requires proper treatment to prevent further complications. CSOM treatment generally involves two main approaches, namely topical therapy and oral therapy. Topical therapy provides direct treatment to the infected area, such as the use of ear drops containing antibiotics or corticosteroids. On the other hand, oral therapy uses systemic drugs, such as antibiotics or anti-inflammatories, which work through the bloodstream to treat infections. The effectiveness of these two methods is often a concern, especially in terms of how quickly and how well patients respond to treatment, as well as the risk of side effects that may arise.

Based on this background, this study aims to compare topical therapy with oral therapy in patients with OMSK. The focus of this study is to determine the differences in the effectiveness of both therapies in reducing symptoms, clearing infections, and preventing disease recurrence. By conducting this comparison, it is hoped that the results of the study can provide clearer information to medical personnel in determining the most appropriate treatment method for patients with OMSK, both in terms of efficacy and safety.

RESEARCH METHODS

This research uses the Literature method Review with a Narrative approach Review. This approach is done by reviewing various relevant literature to analyze and conclude existing data related to the research topic. Literature Review was chosen because it allows researchers to integrate findings from various previous studies, thus providing a more comprehensive picture regarding the comparison of topical therapy and oral therapy in patients with chronic suppurative otitis media.

The literature search strategy was conducted online through several platforms, such as Google Scholar and E- Perpustakaan. The keywords used were adjusted to the research topic, namely "Chronic Suppurative Otitis Media," "Oral Therapy," and "Topical Therapy." The use of these keywords aims to ensure that the literature search covers a variety of relevant studies and supports the focus of the research. In addition, the literature search focused on journals published in the last five years to ensure that the data used is the latest information.

The inclusion criteria in this study include research journals published between 2019 and 2024. Meanwhile, journals published before 2019 were excluded from the analysis, considering the relevance of information that may no longer be in accordance with current developments. With this selection, the study is expected to produce an accurate analysis and provide a real contribution in understanding the effectiveness of topical therapy and oral therapy for the management of chronic suppurative otitis media.

RESULTS AND DISCUSSION

Process Selection Article

In the *literature results review*, 10 journals were found that discussed the comparison

between therapy topical with oral therapy in patients with suppurative otitis media chronicle

Inclusion and exclusion criteria were used to eliminate journals that No relate so that obtained 10 journal. Channel study Which done on writing thesis started from determination topic, literature search based on related article databases, literature selection, processing data & conclusion.

RESULTS

Based on results summary after done search, obtained 10 journals related to comparative analysis between therapy topical with oral therapy in patients with suppurative otitis media chronicle :

Table 1. Results of literature study review

Author / Year	Title Study	Method	Research result
Nurul Fitri Utami & Muhammad Edy Syahputra, 2021	Risk Factors and Therapy Medical in OMSK Patients Without Cholesteatoma at Haji Mina Hospital	Study descriptive with using recorded data medical	Study This show that use antibiotics class quinolones, such as ciprofloxacin, are therapy main for OMSK patients without cholesteatoma at Haji Mina Hospital, with 60% of patients accept therapy This. Hydrogen peroxide topical used as therapy symptomatic in 60% of cases. The combination This show effectiveness in overcome symptoms of OMSK, especially otorrhea. Research This highlight importance election the right antibiotic For prevent complications, such as disturbance hearing and infection secondary, which is often occurs in OMSK. Use therapy This reflect management based on evidence that prioritizes control infection and recovery patient.
Nadia Rofifah Adellia et al., 2024	Characteristics Governance Benign OMSK Patients at Sayang Rakyat Regional Hospital	Study descriptive using secondary data	Study This highlight characteristics benign type OMSK patients at Sayang Rakyat Regional Hospital, where the majority patient is Woman elderly aged 46-65 years (35.48%), have education graduated from high school (27.74%), and did not own work (37.42%). The most common management of benign OMSK type used is combination of ear toilet, antibiotics topical, and antibiotics systemic, which was applied in 92.26% of cases. This study highlight importance factor social economy in OMSK management, where access limited to service health contribute to delays in diagnosis and therapy. Research this also emphasizes need education public about importance maintenance beginning For prevent complications term long.
The Almighty Heart Nafi'ah	OMSK: Treatment and Prevalence in Indonesia	Review descriptive with	OMSK in Indonesia has high prevalence, influenced by sanitation bad, density population, and access service limited health. This study find that therapy use antibiotics quinolones are highly recommended, especially in cases of

Author / Year	Title Study	Method	Research result
et al., 2023		focus clinical	benign OMSK. In addition, the procedure surgery like tympanoplasty effective in repair function hearing. Research This give outlook important about importance management comprehensive OMSK for prevent complications, such as cholesteatoma, which can cause damage structure bone ear middle. This study also encourages development policy health For increase access to facility health in the area with high prevalence of OMSK.
Nasir Wakeela et al., 2023	Effectiveness of Topicals vs. Topicals Combination Ciprofloxacin in CSOM Treatment	Prospective study compare two groups treatment	Topical ciprofloxacin proven The same its effectiveness with combination of oral and topical ciprofloxacin in overcome fluid ears in OMSK patients, with level success by 95.9% after 7 days treatment. Research it also notes that effect side minimum more often found in the group combination therapy, such as mild gastrointestinal disturbances. Research This underline Topical ciprofloxacin advantages as choice therapy line first, especially Because its efficient capabilities in reduce symptom without risk significant to patients. This also reduces burden costs and risks complications consequence use antibiotics systemic.
Rizqiani Astrid Nasution et al., 2023	Diagnosis and Management of Suppurative Otitis Media Chronicle	Framework diagnostic and therapeutic comprehensive	This study highlight steps comprehensive diagnostics, including anamnesis, examination physical, and tests audiometry, for ensure an accurate diagnosis in OMSK. Non- surgical management such as ear toilet and antibiotics topical give results significant in patients with symptom light until moderate. However, in cases where responsive in 3-4 weeks, surgery like tympanoplasty or mastoidectomy recommended. This study also highlights the need monitoring periodic For prevent complications such as mastoiditis and abscesses brain, which is often happen if OMSK does not handled with Correct.
Lale Aqmarina Awanis et al., 2022	Management of Chronic Suppurative Otitis Media in the Archipelago	Study descriptive that focuses on factors community	OMSK becomes problem significant health in the area islands, where poor hygiene and limited access service health to worsen condition This. Research This find that aural irrigation and ear toilet were performed routinely very effective in reduce Symptoms of OMSK. Therapy antibiotics, good topical and also systemic, become an integral part of treatment. This study give recommendation For increase education health in the community archipelago and establish center health integrated For better management of OMSK Good.

Author / Year	Title Study	Method	Research result
Fiona Widyasari et al., 2022	Management of OMSK in Primary Health Facilities	Study descriptive that emphasizes primary service	Management of OMSK in facilities primary health shows significant results in reduce number morbidity and mortality. Research This show that antibiotics topical and ear toilet is step effective start before refer to patient to maintenance surgery. Use surgery, such as tympanoplasty, aims For stops otorrhea and improves function hearing. Research This highlight importance primary services in diagnosing and treating OMSK, especially in rural areas with access limited to House Sick secondary.
Seres Triola et al., 2023	Therapy in Patients with CSOM at RSUP Dr. M. Djamil	Descriptive study categorical using secondary data	Most of the OMSK patients at Dr. M. Djamil General Hospital is teenager end (36.4%), with type perforation subtotal tympanic membrane (57.3%). OMSK type safe often handled with combination antibiotics systemic and surgical tympanoplasty (84.4%). While that, type danger need surgery tympanomastoidectomy (84.8%). Research This give outlook about management based on OMSK types and their necessity supervision post-surgery For prevent complications term long.
Muhammad Imran Malik et al., 2024	Comparison of Efficacy of Topical vs. Topical Oral Ciprofloxacin in CSOM	Quasi-experimental study compare effectiveness drug	This study show that topical ciprofloxacin more effective compared to with oral ciprofloxacin in stopping otorrhea in OMSK patients. Within two weeks treatment, 83.1% of patients receiving topical ciprofloxacin reach condition ear dry, compared with only 29.2% in the oral group. The study This give proof strong For recommend topical ciprofloxacin as therapy main in OMSK management.
Anisha Fitry Oktaviana et al., 2022	Systematic Review: Effectiveness Ciprofloxacin Topical in OMSK	Systematic review about effectiveness ciprofloxacin	Systematic review This show that topical ciprofloxacin more effective compared to other antibiotics such as neomycin and framisetin in treating OMSK. Its effectiveness covers subtraction otorrhea symptoms, healing perforation tympanic membrane, and increased quality hearing. The study also noted that ciprofloxacin has profile more security well, make it become choice main in OMSK therapy.

Based on the analysis of 10 journal articles, the effectiveness of various treatment modalities for Chronic Suppurative Otitis Media (CSOM) is summarized as follows: 60% of studies reported that topical therapy was the most effective, especially with ciprofloxacin ear drops. Approximately 30% of studies showed that combination therapy (topical and oral) provided better results, especially in cases with extensive perforation or resistant infection. Only 10% of studies stated that oral therapy alone was effective, especially in treating systemic complications rather than local infections.

In cases where topical therapy is considered highly effective, patients generally have tubotympanic (benign) CSOM. This type is characterized by minimal secretion, central perforation of the tympanic membrane, and absence of cholesteatoma. These findings highlight the appropriateness of topical therapy for localized infections without severe anatomic disturbances or systemic involvement.

Based on the reviewed studies, topical therapy, specifically with ciprofloxacin ear drops, remains the gold standard in managing uncomplicated CSOM due to its direct mechanism of action and minimal systemic side effects. However, for cases with more severe presentations, including larger perforations or significant secretions, combination therapy is recommended to ensure comprehensive infection control. This combination not only reduces symptoms such as otorrhea but also minimizes the risk of long-term complications such as hearing loss or damage to middle ear structures.

Discussion

Definition of Chronic Suppurative Otitis Media (CSOM)

Suppurative Otitis Media (CSOM) is a chronic inflammatory condition that occurs in the middle ear cavity, characterized by perforation of the tympanic membrane and discharge (otorrhea) from the ear for more than two weeks (Oktavianita & Yuniarti, 2022). CSOM is often a major health problem in developing countries, because it has a significant impact on the quality of life of patients, including hearing loss to serious complications. This condition not only affects the physical aspect, but can also have social and economic impacts, especially in patients with limited access to health services.

Topical and Oral Therapy Mechanisms for OMSK

Topical Therapy

Topical antibiotics work by direct mechanisms on the infected area in the middle ear. This mechanism allows the drug to reach high concentrations at the site of infection without having to pass through systemic circulation, thereby reducing the risk of side effects that often occur with oral or systemic therapy (Wakeela et al., 2023). Ciprofloxacin, as a frequently used topical antibiotic, has a broad spectrum of activity against gram-negative bacteria such as *Pseudomonas aeruginosa*, which is one of the main pathogens in OMSK (Malik et al., 2024). Ciprofloxacin Topicals also have good penetration ability into the middle ear tissue, thereby accelerating the healing process.

Studies have shown that topical therapy is more effective in stopping otorrhea than oral therapy. Malik et al. (2024) reported that patients receiving ciprofloxacin topical showed an 83.1% success rate in stopping ear fluid within two weeks. This is due to the direct mechanism of action that does not require distribution through the bloodstream, thus shortening the onset time of the drug's action. In addition, ciprofloxacin Topicals have a better safety profile because they do not cause systemic effects such as gastrointestinal upset or a higher risk of antibiotic resistance.

Another advantage of topical therapy is its ability to be combined with local treatment procedures, such as ear toilet. This combination increases the effectiveness of treatment by cleaning debris and exudate that can inhibit drug penetration (Wakeela et al., 2023).

However, the success of topical therapy is highly dependent on patient compliance in using the drug according to the recommended dosage and correct application techniques.

Oral Therapy

Systemic antibiotics such as oral ciprofloxacin work by inhibiting bacterial growth throughout the body. They are absorbed through the gastrointestinal tract and distributed through the bloodstream to all tissues, including the middle ear. Although oral therapy has advantages in treating widespread or systemic infections, its effectiveness in cases of CSOM is often slower than topical therapy (Triola et al., 2023).

ciprofloxacin has the same spectrum of activity as the topical form, but takes longer to reach therapeutic concentrations in the area of infection. Malik et al. (2024) reported that only 29.2% of patients receiving oral ciprofloxacin therapy showed significant improvement within two weeks. This is due to the drug distribution process involving metabolism in the liver and elimination through the kidneys, which slows down the direct effects at the site of infection.

Although slower, oral therapy still has an important role in cases of OMSK with systemic complications, such as mastoiditis or infections involving tissues outside the middle ear. Oral antibiotics are also often used as adjunctive therapy in patients at risk of resistance or in cases that are unresponsive to topical therapy.

Comparison of Mechanisms

Topical and oral therapies have different mechanisms of action in treating OMSK. Topical therapy provides higher concentrations of drugs at the site of infection with minimal side effects, making it the preferred choice for cases without systemic complications. In contrast, oral therapy is more suitable for treating widespread infections or in patients who cannot use topical medications due to certain conditions, such as large tympanic membrane perforations or poor drainage (Triola et al., 2023; Malik et al., 2024).

However, both have drawbacks that need to be considered. Topical therapy requires proper application technique to ensure optimal drug penetration, while oral therapy carries the risk of systemic side effects, such as gastrointestinal upset or potential antibiotic resistance if overused (Wakeela et al., 2023). Therefore, the selection of appropriate therapy must consider the patient's clinical condition, the severity of the infection, and the presence of complications.

Topical Therapy

Ciprofloxacin Topical has been shown to be one of the most effective therapies in V OMSK using ciprofloxacin. topical. In the study, 95.9% of patients who received ciprofloxacin topical therapy heals within 7 days. This cure rate is very high, especially when compared with systemic therapy or a combination of topical and oral. This effectiveness is due to the ability of ciprofloxacin to directly inhibit the activity of causative bacteria, such as *Pseudomonas aeruginosa* and *Staphylococcus aureus*, which is often the primary pathogen in cases of OMSK.

Another advantage noted in this study was minimal side effects. Most patients reported no systemic disorders or allergic reactions during the use of ciprofloxacin. topical. This confirms that topical therapy is a safe and effective option, especially in patients who are

sensitive to oral antibiotics or those at high risk for systemic complications from antibiotics (Wakeela et al., 2023).

The main symptom of OMSK, otorrhea, is often an indicator of successful therapy. Ciprofloxacin topical not only stops the discharge of fluid from the ear, but also helps reduce inflammation in the middle ear cavity. This reduction in inflammation contributes to improving the patient's hearing quality, which is often impaired due to chronic inflammation and fluid accumulation. According to Malik et al. (2024), patients receiving ciprofloxacin topical showed significant improvement in their hearing function within two weeks of treatment.

Therapeutic effects of ciprofloxacin topical therapy also includes restoration of middle ear structures, especially in cases with tympanic membrane perforation. Smaller perforations tend to heal more quickly with consistent use of topical therapy. This suggests that ciprofloxacin Topicals not only treat symptoms but also support the anatomical healing process.

Ciprofloxacin topical therapy has major clinical implications, especially in developing countries with a high prevalence of CSOM. Its rapid healing rate, safety profile, and ease of use make it a highly effective first-line therapy for CSOM without systemic complications. Furthermore, its relatively low cost compared to systemic therapy or surgery makes it an economical and affordable option for populations with limited access to healthcare.

However, the success of topical therapy is highly dependent on patient compliance with medication instructions. Patient education on proper use and the importance of maintaining ear hygiene should be an integral part of OMSK management. With a comprehensive strategy, ciprofloxacin Topical therapy can provide optimal treatment results, reduce morbidity, and improve the quality of life of patients with OMSK.

Effectiveness of Oral Therapy

ciprofloxacin is one of the systemic antibiotics that are often used in the management of Chronic Suppurative Otitis Media (CSOM). The mechanism of action of oral ciprofloxacin is by inhibiting the growth of bacteria that cause infection systemically through blood circulation. Although this therapy has benefits in treating more extensive infections or involving tissue outside the middle ear, its effectiveness in stopping the main symptoms of CSOM, such as otorrhea, is often slower than topical therapy.

Research conducted by Malik et al. (2024) showed that only 29.2% of patients receiving oral ciprofloxacin managed to achieve dry ear conditions within two weeks. This suggests that oral ciprofloxacin requires a longer time to reach effective therapeutic concentrations in the middle ear area. Factors such as hepatic metabolism and renal excretion can slow down the distribution of the drug to the site of infection. In cases of CSOM, where otorrhea is the main symptom, this slow response time can affect the quality of life of patients, especially those with significant hearing loss due to fluid accumulation in the middle ear.

ciprofloxacin has the advantage of treating systemic infections or complications of widespread CSOM, such as mastoiditis, abscesses, or spread of bacteria to surrounding tissues. Oral antibiotics provide a broader spectrum of action against a variety of pathogens, including *Pseudomonas aeruginosa* and *Staphylococcus aureus*, which is often the main cause of OMSK. However, its effectiveness in treating local symptoms, such as otorrhea,

remains lower than topical therapy because the concentration of drug reaching the middle ear is not as high as that administered topically.

ciprofloxacin provides a broader therapeutic coverage, making it an ideal choice for cases with systemic complications or infections involving more than one site. In addition, oral ciprofloxacin is easier to administer to patients who have difficulty using topical medications due to inadequate application techniques.

Slower effectiveness in stopping otorrhea is the main disadvantage of oral ciprofloxacin in the management of OMSK. More frequent systemic side effects, such as gastrointestinal disturbances, also limit its use, especially in patients who are susceptible to these side effects. In addition, the risk of antibiotic resistance is higher if therapy is not carried out according to the recommended protocol.

In conclusion, although oral ciprofloxacin has an important role in the management of OMSK, its use should be tailored to the patient's clinical needs. More specific treatments, such as ciprofloxacin Topical, should be prioritized in cases with dominant local symptoms, while oral or combination therapy is more recommended for cases with a higher risk of complications.

Comparison of Advantages and Disadvantages

Topical and oral therapies each have advantages and disadvantages that need to be considered in the management of Chronic Suppurative Otitis Media (CSOM). The selection of appropriate therapy should be based on the patient's clinical condition, severity of the disease, and risk of complications.

One of the main advantages of topical therapy is its ability to deliver high concentrations of the drug directly to the site of infection. This allows the drug to work effectively in the middle ear without the need for distribution through the systemic circulation, resulting in a more rapid effect in treating symptoms such as otorrhea (Wakeela et al., 2023). Ciprofloxacin topical, for example, showed a high success rate with 95.9% of patients cured within seven days (Malik et al., 2024). In addition, the safety profile of topical therapy is excellent, with minimal side effects because the drug does not undergo hepatic metabolism or renal excretion that can cause systemic complications. This makes it an ideal choice for patients at high risk for systemic side effects or those who require rapid relief from local symptoms.

topical therapy has significant limitations. Its success is highly dependent on correct administration technique, which often requires patient education on how to use the medication. Patients should be taught how to clean the ear prior to medication application to ensure optimal penetration into the area of infection (Oktavianita & Yuniarti, 2022).

In contrast, oral therapy has the advantage of ease of access and effectiveness in cases with systemic complications. Oral antibiotics such as ciprofloxacin can treat infections that are widespread or not limited to the middle ear (Triola et al., 2023). This therapy also provides broader coverage of the various pathogens that may be involved, so it is often used in more severe cases or patients at risk of spreading infection to other tissues. The ease of administration in tablet or capsule form makes this therapy more practical, especially for patients who cannot use topical medications due to mobility limitations or certain anatomical conditions.

Overall, topical therapy is superior in managing local symptoms of CSOM with rapid results and a better safety profile. However, its limitations in managing cases with systemic complications make it less effective when used as the sole treatment method in severe CSOM cases.

Clinical Implications and Recommendations

The results of this study provide important insights into how the management of Chronic Suppurative Otitis Media (CSOM) can be tailored to the patient's clinical condition. The finding that topical therapy is more effective in treating uncomplicated CSOM cases suggests that a local-focused approach has the potential to rapidly reduce morbidity. However, oral therapy still plays an important role in the management of cases with systemic complications or widespread infection, providing a basis for a more flexible and comprehensive treatment strategy.

Topical therapy, such as ciprofloxacin, provides rapid and effective results in patients with uncomplicated OMSK. The direct mechanism of action at the site of infection allows this medication to achieve high therapeutic concentrations in the middle ear, thereby stopping otorrhea and improving the patient's hearing function in a short time (Wakeela et al., 2023). With minimal side effects, topical therapy is also suitable for vulnerable populations, such as children and the elderly, who are more sensitive to the systemic side effects of oral antibiotics. This efficacy and safety profile make topical therapy the primary choice in the management of OMSK that is not accompanied by the spread of infection to other tissues.

However, oral therapy has limitations, especially in longer recovery times and the risk of systemic side effects, such as gastrointestinal disorders. Therefore, this therapy is more often used in combination with topical therapy to increase the effectiveness of treatment while minimizing the risk of complications. This combination allows for rapid local treatment through topical therapy, while oral therapy provides broader systemic protection.

Topical and oral therapy has been shown to provide synergistic benefits in the management of OMSK, especially in more complex cases. Malik et al. (2024) stated that this combination resulted in a higher cure rate compared to the use of either therapy separately. Topical therapy quickly treats local infection, while oral therapy provides additional protection to prevent the spread of infection. This approach is also suitable for patients with extensive tympanic membrane perforations, where fluid drainage often inhibits the effectiveness of topical therapy when used alone.

The effectiveness of therapy, whether topical or oral, is highly dependent on patient compliance with treatment instructions. Therefore, patient education is an integral part of the management of CSOM. Patients should be given a clear understanding of the importance of ear cleaning prior to application of topical therapy, as well as the importance of completing the full course of oral therapy to prevent antibiotic resistance. Combination therapy also requires good communication between the patient and the healthcare provider to ensure adherence to the treatment regimen.

This study emphasizes the importance of a treatment strategy tailored to the needs of the patient. Topical therapy provides a quick and safe solution for uncomplicated CSOM cases, while oral therapy is the mainstay in treating widespread infections. The combination

of both therapies offers optimal results, especially in difficult cases. With an integrated and evidence-based approach, CSOM management can be improved to reduce the burden of disease and improve the quality of life of patients.

CONCLUSION

This study shows that the management of Chronic Suppurative Otitis Media (CSOM) requires an approach tailored to the severity of the disease and the patient's clinical condition. Topical therapy, such as ciprofloxacin, has been shown to be more effective in managing local symptoms of uncomplicated CSOM. With the ability to deliver high drug concentrations directly to the site of infection and a good safety profile, this therapy results in a high success rate and rapid recovery time. Most patients show significant improvement in less than one week, with minimal side effects. However, in cases of CSOM involving systemic complications or widespread infection, oral therapy remains an important option. Oral ciprofloxacin is effective in providing systemic coverage to prevent the spread of infection, although it takes longer to achieve the desired results. The combination of topical and oral therapy offers synergistic benefits, especially in more complex cases, by combining the rapid effects of topical therapy and the systemic coverage of oral therapy. This study also emphasizes the importance of patient education regarding proper administration techniques, especially for topical therapy, and the importance of adherence to treatment to prevent antibiotic resistance. Careful monitoring and an evidence-based approach are needed to ensure optimal treatment. Overall, an integrated approach considering the advantages and disadvantages of each therapy can improve the treatment outcomes of CSOM. Topical therapy should be the first choice for uncomplicated cases, while combination with oral therapy is recommended for cases with complications or extensive infection. With the right management strategy, the burden of CSOM disease can be reduced, and the quality of life of patients can be significantly improved.

REFERENCE

- Purba LA, Imanto M, Angraini DI. Hubungan Otitis Media Akut dengan Riwayat Infeksi Saluran Pernapasan Atas pada Anak. *Medula*. 2021;10:670–6.
- Alkatiri FBB. Kriteria diagnosis dan penatalaksanaan otitis media supuratif kronis. *Intisari Sains Medis*. 2019;5(1):100–5.
- World Health Organization. Deaths by sex and age group for a selected country or area and year. *World Heal Organ*. 2019;(September):2022.
- Pangemanan DM, Palandeng OI, Pelealu OC. Otitis Media Supuratif Kronik di Poliklinik THT-KL RSUP Prof. Dr. R. D. Kandou Manado Periode Januari 2014 – Desember 2016. *e-Clinic*. 2018;6(1).
- Keputusan Menteri Kesehatan Republik Indonesia Pedoman Nasional Pelayanan Kedokteran Tata Laksana Otitis Media Supuratif Kronik. 2018;
- Mediawaty D, Widodo P, Ruspita DA. Efektivitas Klinis Ofloksasin Topikal Dibanding Ciprofloksasin Oral Pada Terapi Otitis Media Supuratif Kronik Aktif. *Medica Hosp J Clin Med*. 2017;4(2):77–83.

- Malik, M. I., Naqvi, A. F., Shahan, Z., Akbar, A., Enam, A., & Raza, M. (2024). Comparison of efficacy of topical ciprofloxacin ear drops versus oral ciprofloxacin in achieving dry ear in chronic suppurative otitis media. *Pak Armed Forces Medical Journal*, 74(4), 970–973. <https://doi.org/10.51253/pafmj.v74i4.10016>
- Oktavianita, A. F., & Yuniarti, L. (2022). Systematic review: Efektivitas siprofloksasin topikal pada pengobatan otitis media supuratif kronik. *Jurnal Riset Kedokteran*, 2(2), 91–100. <https://doi.org/10.29313/jrk.vi.1506>
- Wakeela, N., Tariq, A., Gull, I., & Hafeez, H. (2023). Effectiveness of topical vs. combination ciprofloxacin for the treatment of chronic suppurative otitis media. *Journal of University Medical & Dental College*, 14(3), 679–682. <https://doi.org/10.37723/jumdc.v14i3.697>
- Triola, S., Andraini, M., Khomeini, & Ashan, H. (2023). Media supuratif kronik di Poliklinik THT RSUP Dr. M. Djamil tahun 2020-2022. *Scientific Journal*, 3(3), 133–135.
- Fitria, N., & Syahputra, M. E. (2021). Gambaran faktor risiko dan terapi medik pada pasien OMSK tanpa kolesteatoma di RS Haji Mina. *Jurnal Maksitek*, 6(2), 51–54.
- Rofifah, N., Pratama, A. A., Jusli, M., Mesi, S., & Jafar, M. A. (2024). Karakteristik tatalaksana pasien OMSK tipe benign di RSUD Sayang Rakyat Makassar. *Fakumi Medical Journal*, 4(2), 141–143.
- Nasution, R. A., Sangging, P. R. A., & Himayani, R. (2023). Diagnosis dan tatalaksana otitis media supuratif kronik. *Medula*, 13(3), 56–60.
- Awanis, L. A., & Aryani, I. G. A. T. (2022). Management of chronic suppurative otitis media in community activities in the archipelago. *Jurnal Inovasi Pendidikan dan Sains*, 3(3), 104–107.
- Widyasari, F., Hifni, A., & Ghanie, A. (2022). Penatalaksanaan OMSK di fasilitas kesehatan pertama. *Conferences of Medical Sciences Dies Natalis Faculty of Medicine Universitas Sriwijaya*, 4(1), 89–91.
- Nafi'ah, M. Q., Mulyani, S., & Putri, W. R. (2023). OMSK: Penanganan dan prevalensi di Indonesia. *Jurnal Kedokteran Indonesia*, 7(1), 112–116.