

Use Of Local Vancomycin Antibiotics Injection Dose After End Of Endoscopic Percutaneous Discectomy To Reduce Or Prevent Post-Operative Discitis.

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Abstract: *The rate of discitis after microscopic discectomy is 1% to 15% and by used of endoscopic discectomy the rate is 1-3% both with systemic prophylaxis antibiotics only. This event of complication can result of disability or death.*

Aim *To evaluate the infection rates associated with endoscopic lumbar discectomy when using of local intradiscal injection and systemic antibiotics.*

This retrospective study to analyzed patients under went endoscopic discectomy we gave all patients preoperative 2g of ceftriaxone iv and local intradiscal injection of antibiotics in the end of operation by a cocktail of (vancomycin 1g ,kenacote 40mg plus lidocaine 5ml of 2%) all dissolved in 10 ml normal saline and injected inside the disc space. Discitis considered when a symptom reappears like back pain radicular pain, also elevation of ESR, CRP and leukocytosis. And this happened between 10 days to 1 month.

Results *A total of 151 patients operated for lumbar discectomy by using endoscopic procedure. 80 males (53%) and 71 femeles (47%). 121 (80.13%) of them posterolateral trans foraminal and 30 (19.87%) cases inter laminar approach. Age of (19 -61) years old average age is 32.5 years old , level of herniated disc L2-3 level 6 patients (3.97%). L 3-4 level 8 patients (5.3%) ,L4-5 level 107 patents (70.86%). L5-S1 level 30 patients (19.87%). All patient follow for 4 months and did blood test for ESR, CRP and WBC . one patient (0.66%) developed discitis and treated by systemic antibiotics,.*

Conclusion *Using of intravenous antibiotic (ceftriaxone) 30 minutes preoperative and injection of cocktail of (vancomycin , kenacort and lidocaine) of 10 ml all and injected intradiscal reduce to prevent discitis.*

Keywords ; *endoscopic lumbar discectomy, local antibiotics, systemic antibiotics,spondylodiscitis*

1. INTRODUCTION

All kind of operations for discectomy carries a complication of disc infection(1). The use of microscopic discectomy by Caspar and Yasargil in 1977 (2 , 3) reported a highly reduced in infection rate in this procedure(1-15%), this is because of less damage to the tissue. In 1973 Kambin and Gellmann (4) in USA , Hijikata in Japan in 1975 (5) , the rate of infection reduced to 1-3% (6,7) in the use of endoscopic procedure. Infection can lead to high morbidity rate, when it occur it need a long time for bed rest with treatment by systemic antibiotics . if it not controlled it may lead to deformity , chronic pain and even death. However, it is strongly known that antibiotic prophylaxis reduces infection incidence (8).

2. PATIENT AND METHODS

In this retrospective study a patient under went endoscopic discectomy were analyzed, from 2016 – 2017 in neurosurgery department Baghdad Iraq. A 151 patient did endoscopic discectomy for disc prolapsed and herniating. Average age of 32.5 (19-61 years old). All investigation done to all patient includes laboratory (ESR, CRP, WBC), X-Ray , CTS and MRI of lumbar spine. All patient did not have any signs of infection in the spine before surgery, and patient operated by same surgeon (author) and one institution. Average stay in hospital 2 days , no drain use. I use vancomycin diluted by 3ml of saline with kenacort 40 mg plus 5 ml of lidocaine 2% and complete it with saline to be 10 ml of all. in the end of operation endoscope with it sleeve introduce to disc space (figure 1) and injecting the cocktail through the endoscope then remove the endoscope with sleeve no drain used, closed skin by single stich. The surgeon diagnosed the infection during regular visits, depending on WBC, ESR, CRP, MRI of spine for suspicious cases.

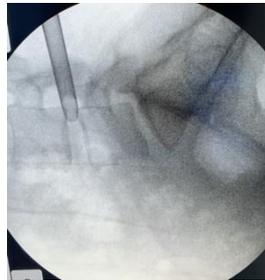


Figure 1 intradiscal sleeve

Results

A total of 151 patients operated for lumbar discectomy by using endoscopic procedure. 80 males (53%) and 71 femeles (47%). 121 (80.13%) of them posterolateral trans foraminal and 30 (19.87%) cases inter laminar approach (figure 2,3). Age of (19 -61) years old average age is 32.5 years old , level of herniated disc L2-3 level 6 patients (3.97%). L 3-4 level 8 patients (5.3%) ,L4-5 level 107 patents (70.86%). L5-S1 level 30 patients (19.87%).

one patient (0.66%) developed discitis he is smoker with diabetics and treated by systemic antibiotics.



approach

Figure 2: interlaminar



figure 3: posterolateral approach

3. DISCUSSION

Spondylodiscitis of lumbar spine are not frequent (9). Spine surgeon must be very careful to reduce infection incidence as much as possible. In a comparing with microscopic discectomy using systemic antibiotics result of infection was 1-15% (2-3), and comparing with use of endoscopic discectomy result was 1-3% (6,7). In may the study by using of systemic and intradiscal antibiotic there are reduced in infection rate in which be less than 1%.

The hint for use of vancomycin: effective against staphylococcus and gram negative bacteria also has wide range of use for bone and soft tissue and local infection.

Use of kenacort to reduce nerve oedema and to decrease allergic effect of vancomycin.

Use of lidocaine to give analgesic effect to patient postoperative.

In other study smoking and diabetes have a high risk factor for infection (10, 11), causing reduce WBC and angiopathy function also poor oxygen supply to the tissue and poor penetration of antibiotic to tissue.

Highly focus in surgical work on correct hemostasis, frequent space irrigation with saline good fascial closure and treatment high blood pressure (10), stop smoking (11), good nourishment (12) are very important factors together with systemic and local antibiotics in which help to reduce or prevent of infection after discectomy.

4. CONCLUSION

In my study showed that use of systemic prophylaxis antibiotic in addition with local injection intradiscal antibiotic reduce rate of infection after surgery for herniated disc compared with the use of systemic antibiotic.

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