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OUTCOME OF ANTERIOR CERVICAL DISCECTOMY AND FUSION USING SURGICAL LOUPE

Outcome of Anterior Cervical Discectomy and Fusion Using Surgical Loupe

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Abstract

Background Data: ACDF using the surgical microscope is the gold standard treatment for cervical radiculopathy, myelopathy or myeloradiculopathy due to herniated cervical disc and/or uncovertebral spurs, since it was first developed in 1950. Complications of ACDF, reported in the literature, have very low incidence rate except laryngeal and pharyngeal complications (dysphagia, dysphonia) with reported incidence of 5.7% to 93.3%.

Purpose: To find out the possibility and safety of use of surgical loupe alone as an alternative to the gold standard surgical microscope.

Study Design: observational analytic retrospective study.

Patients and Methods: Retrospective evaluation of outcome of 59 cases of surgically treated cervical disc disease done using surgical loupe alone instead of microscope in Ain Shams university hospitals.

Results: The mean VAS of axial neck pain and radicular pain decreased significantly immediately postoperatively (P value 0.001<). Radicular weakness improved immediately postoperatively (P value 0.032). Myelopathy improved significantly after 1 month (P value 0.004).The overall satisfaction of patients was excellent in 47.4% (28 cases) and very good in 37.3% (22 cases) with overall highly satisfactory results 84.7% of patients. The mean interval to return to work after surgery (in months) was 1.98±0.55. The mean of operation time (in minutes) of ACDF was 112.71±44.55.

Conclusion: Surgical loupe could be good alternative to microscope in ACDF in resources- limited centers. (2014ESJ075)

Keywords: Anterior cervical discectomy and fusion (ACDF), Visual analogue score (VAS), axial neck pain, radicular pain, radicular weakness, myelopathy

Introduction

Cervical intervertebral disc herniation usually presents with cervical radiculopathy (radiating arm pain, numbness or weakness of the upper extremity) or myelopathy involving the upper or lower extremities. Surgical treatment is indicated when conservative treatment fails or the symptoms worsen or become unbearable. In 1940, posterior approach was the only surgical option[11,33] then has been almost replaced with anterior cervical discectomy and fusion (ACDF) in 1950.[3-5,9,17,26,30,33]

ACDF using the surgical microscope is the gold standard treatment for cervical radiculopathy, myelopathy or myeloradiculopathy due to herniated cervical disc and/or uncovertebral spurs, since it was first developed in 1950.[24,28] Several complications of ACDF have been published in literature, such as neurovascular injuries, upper airway obstruction, laryngeal and pharyngeal complications, pseudoarthrosis and infection.[8,15,23,28,31,32] All of these complications have very low incidence rate except laryngeal and pharyngeal complications (dysphagia, dysphonia) with reported incidence of 5.7% to 93.3%.[2,7,10,16,20,25,27,28,36,38]

We conducted this retrospective study in Ain Shams university hospitals between January 2012 and May 2013 assess the ease, safety and outcome of ACDF surgery using the surgical loupe as an alternative to the surgical microscope so that it could be used in resources limited centers.

Patients and Methods

Outcome of 59 cases of surgical cervical disc disease done using surgical loupe, Keeler 2.5X with LED head light, instead of standard microscope in Ain Shams University hospitals between January 2012 and May 2013 were evaluated retrospectively. Aim of surgery was root or cord decompression in one, two or three diseased cervical disc levels with anterior cervical fusion using polyetheretherketone (PEEK) cage and artificial bone granules with or without plating.

Pre-operative assessment of neck axial pain and root pain was performed using visual analogue score (VAS). Pre-operative grading of motor weakness (for radicular weakness and for myelopathy) is made from 1 to 5 using motor power grading system (5=Normal, 4=muscles movement against resistance, 3=muscle movement against gravity, 2=muscle movement with gravity, 1=visible contraction but no movement, 0=no visible contraction).

Diagnosis was made by correlation of full clinical examination to radiological findings shown in PXR cervical spine and MRI cervical spine. We used the surgical loupe alone as an alternative to the standard surgical microscope through the whole duration of study.

We retrospectively assessed the intra-operative outcome of these cases as regard ease and safety of surgery as measured by duration of surgery, comfortability of the surgeon during surgery and intraopertative complication incidence rate. Also we assessed the post-operative outcome of the patients as measured by improvement of pre-operative symptoms (root pain, neck axial pain, radicular weakness or myelopathy) and post-operative complications, if any, like dysphagia, hoarseness of voice or CSF leak or need for re-operation during follow up in 1st week, 1st month, 3months and 6 months intervals. Statistical analysis was performed with SPSS software to assess the outcome results.

Operative Technique:

Surgery was done under general anesthesia. Patient position was supine with interscapular roll to get the neck extended and the shoulders draped down away from the cervical spine. All steps of surgery were done under magnification and illumination of surgical loupe, Keeler 2.5X with LED head light.

The cervical spine was exposed using a right sided standard Smith-Robinson approach. Once the dissection was carried down to the anterior surface of the spine, level confirmation was done using intraoperative fluoroscopy followed by elevation of both longus coli muscles. The anterior annulus of the involved disc is opened by sharp knife blade no.11 then removed with Kerrison rongeurs. Discectomy, endplate preparation, removal of the anterior and posterior osteophytes, and foraminal decompression were performed in the usual manner. Disc space distraction was achieved using the Caspar retractor or a narrow laminar spreader. The PLL was removed only if a defect is noted or if there is a suspicion of a herniated sub-ligamentous fragment. Trial templates were used to determine the adequate cage size. Then, the selected polyetheretherketone cage was firmly filled with bone graft substitute and inserted in the interbody space.

The platysma muscle and subcutaneous tissue were closed with interrupted vicryl sutures and the

skin with subcuticular stitches with sub-platysmal drain. Sub-platysmal drain was removed after 48h and patient was discharged.

Results

ACDF with or without plate fixation was done for 59 cases of surgical cervical disc disease using surgical loupe, Keeler 2.5X with LED head light, instead of standard microscope in Ain Shams university hospitals. Descriptive statistics for the Socio-demographic data are shown in table 1. Descriptive statistics for pre-operative axial neck pain are shown in table2. Descriptive statistics for pre-operative radiculopathy are shown in table 3. Descriptive statistics for pre-operative myelopathy are shown in table 4. ACDF was done in single cervical disc level in 37(62.7%) cases, in 2 cervical disc levels in 15 (25.4%) patients and in 3 levels in 7(11.9%) patients.

Cord signal on MRI cervical spine was found in 23 patients (39%). The mean of MRI/surgery interval (months) was 0.85 ± 1.41. The mean of MRI/surgery interval (months) was shorter in patients with cord signal on MRI cervical spine (0.43±0.28) than those without cord signal (1.74±1.11). The mean of MRI/surgery interval (months) was obviously short in patients with segmental instability (pathology) (0.08±0.06). Primary aim of surgery among the studied patients is shown in table 5. Descriptive statistics for the operative data are shown in table 6.

Descriptive statistics for one week, one month, 3 months, and 6 months follow up clinical data including VAS of radicular and axial neck pains, radicular weakness and myelopathy motor weakness grades are shown in table 7. There no reported significant morbidity in this study including CSF leak, neural, vascular or esophageal injury, hoarseness, or significant dysphagia.

Table 1: Descriptive Statistics of the Socio-Demographic Data

Age (years)	**Mean±SD Range**	**44±9.92 29 – 66**
Sex	Male Female	46 (78.0%) 13 (22.0%)
Smoking	Non smoker Smoker	39 (66.1%) 20 (33.9%)
Duration of Symptoms (m)	Mean±SD Range	3.35±3.30 0.05 – 20

Table 2: Descriptive Statistics of Pre-Operative Axial Neck Pain

Axial Neck Pain	Mean±SD	Range
Duration of Neck Pain	5.69 ± 5.29	0.05 – 30
Maximum Reached VAS	7.03 ± 1.87	3 – 10
(VAS) at time of surgery	5.63 ± 2.02	2 – 10

Table 4: Descriptive Statistics of Pre-Operative Myelopathy

Myelopathy		No.	%
Motor power grade	2	3	5.1%
	3	2	3.4%
	4	13	22.0%
	5	41	69.5%

Table 3: Descriptive Statistics of Pre-Operative Radiculopathy

Radiculopathy		No.	%
Side	Right	13	22.0%
	Left	16	27.1%
	Bilateral	20	33.9%
	Non	10	16.9%
VAS Radiculopathy	Mean±SD	6.19±3.14	
	Range	0 – 10	
Radicular Pain Duration (months)	Mean±SD	2.28±4.10	
	Range	0 – 30	
Radicular weakness distribution	Negative	36	61.0%
	C5	7	11.9%
	C6	7	11.9%
	C7	7	11.9%
	C8	2	3.4%
Radicular weakness grade	0	1	1.7%
	3	5	8.5%
	4	18	30.5%
	5 (Normal)	35	59.3%
Radicular weakness duration (months)	Mean ± SD	0.49 ± 0.94	
	Range	0 – 4	

Table 5. Surgical Procedure Performed in the Studied Patients

Surgical Procedure	No.	%
Cord decompression/ACF	27	45.8%
Root decompression/ACF	25	42.4%
Segmental fusion/ACF/Plate	6	10.2%
Segmental fusion/cord decompression/ACF/Plate	1	1.7%

Table 6. Descriptive Operative Data

Operative Time (min)	Mean±SD	112.7±44.6	
	Range	70–240	
Pathology Levels	1-level	24	40.7%
	2-level	32	54.2%
	3-level	3	5.1%
Type of fusion	ACF	52	88.1%
	ACF/Plate	7	11.9%

Table 7. Descriptive week, 1, 3, 6 months Postoperative Follow-up Data

	PreOp	Week PostOp	P-value	Month PostOp	P-value	3 mos PostOp	P-value	6 mos PostOp	P-value
	Mean±SD	Mean±SD		Mean±SD		Mean±SD		Mean ± SD	
Radicular Pain (VAS)	6.19±3.14	0.56±0.82	<0.001	0.24±0.86	<0.001	0.32±1.25	<0.001	0.37 ± 1.50	<0.001
Axial Neck Pain (VAS)	7.03±1.87	1.83±1.15	<0.001	1.37±1.07	<0.001	1.14±1.14	<0.001	1.54 ± 1.59	<0.001
Radicular Weakness			0.034		<0.001		<0.001		<0.001
Grade 0	11(18.6%)	2(3.4%)		0(0.0%)		0(0%)		0 (0%)	
Grade 1	15(25.4%)	19(32.2%)		15(25.4%)		1(1.7%)		0 (0%)	
Grade 2	10(30.5%)	19(32.2%)		22(37.3%)		3(5.1%)		0 (0%)	
Grade 3	18(16.9%)	13(22.0%)		10(16.9%)		1(1.7%)		0 (0%)	
Grade 4	5(8.5%)	6(10.2%)		4(6.8%)		7(11.9%)		6 (10.2%)	
Grade 5	0(0.0%)	0(0%)		8(13.6%)		47(79.7%)		53 (89.8%)	
Myelopathy			0.055		0.004				<0.001
Grade 2	4(6.8%)	1(1.7%)		0(0%)		0(0%)		0 (0%)	
Grade 3	22(37.3%)	12(20.3%)		10(16.9%)		6(10.2%)		0 (0%)	
Grade 4	33(55.9%)	45(76.3%)		47(79.7%)		50(84.7%)		38 (64.4%)	
Grade 5	0(0%)	1(1.7%)		2(3.4%)		3(5.1%)		21 (35.6%)	

Table 8. Events (Complications) Reported in ACDF Literature Studies

Study	ACDF Events	Patients No.
Guo et al,[12]	1 (dysphagia)	43
wang et al,[14]	8 (hoarsness, dysphagia)	27
Kyung et al,[29]	10 (hoarsness,dysphagia, donor site pain, hardware related)	25
Lin et al,[18]	11 (hoarsness, dysphagia, C5 palsy, CSF leak, epidural hematoma)	57
Liu et al,[19]	15 (hoarsness, dysphagia, C5 palsy, CSF leak, hardware related, epidural hematoma)	69
Nirala et al,[21]	16 (hoarsness, dysphagia, infection, donor site pain, graft related)	69
Uribe et al,[34]	1 (dysphagia)	42
Yonenobu et al,[37]	6 (infection, graft related, epidural hematoma)	50

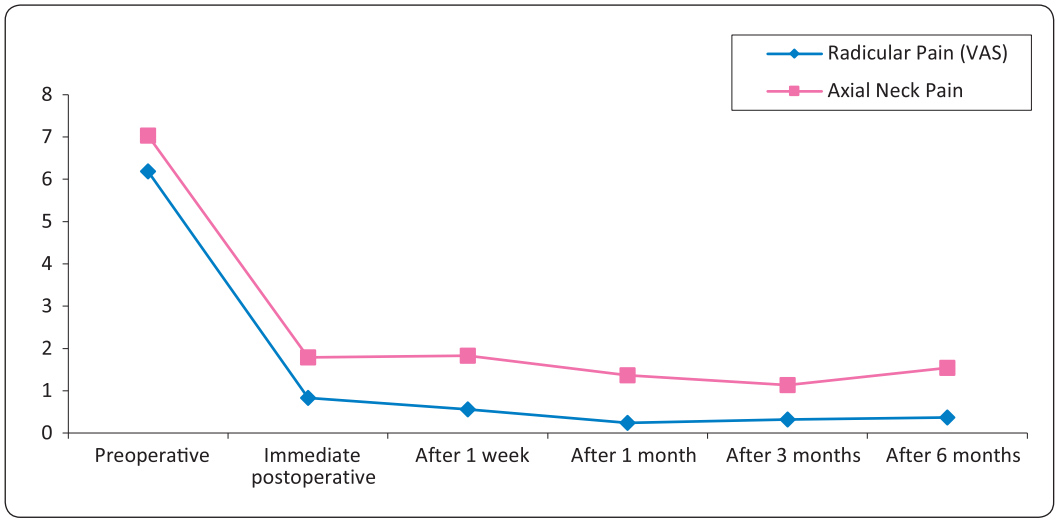

Chart 1. Postoperative Neck and Radicular Pain in Comparison to Preoperative Values (VAS).

Figure 1. (A) T1 MRI sagittal view showing C5/6 disc hernia encroaching upon the spinal cord, postoperative plain radiograph lateral (B) and AP (C) views showing adequately positioned C5/6 PEEK cage in place.

Discussion

Most available studies in literature, we reviewed, show excellent or good clinical outcome as regard VAS of axial neck pain, radicular pain, radicular weakness and mylopathy and patients satisfactions and time interval to return to work after surgery.[12,14,18,19,21,22,34,37]

In our study, the mean visual analogue score (VAS) of axial neck pain and radicular pain decreased significantly immediately postoperatively, after 1week, 1 months, 3 months, 6 months (P0.001<) for both axial neck pain at all intervals follow up in comparison to preoperative axial neck pain and radicular pain (chart 1). Radicular weakness improved immediately postoperatively and at all further follow up intervals (for radicular weakness immediately postoperatively P=0.032, after 1 week P=0.034, 1month P3 ,0.001< months P6 ,0.001< months P<0.001 in comparison to preoperative radicular weakness). Myelopathy improved significantly after 1 month (P=0.004), 3 months (P<0.001), 6 months (P0.001<) postoperatively in comparison to preoperative myelopathy motor weakness grading. The overall satisfaction of patients was excellent in 47.4% (28 patient) and very good in 37.3% (22 patients) with overall highly satisfactory results 84.7% of patients, 10.2% good satisfaction and 5.1% fair satisfaction. The mean interval to return to work after surgery (in months) was 1.98±0.55 with range from 1-3 months. These results indicate adequately satisfactory outcome.

Oh et al,[22] in their study in 2009 reported 140.71± 44.5 min operative time for 2 level ACDF (N=14 cases). Uribe et al,[34] in their study in 2009 reported 220± 30 operative time for ulti-level ACDF (N=42 cases). Guo et al,[12] in their study in 2011, reported 97.4±17.1 operative time for 3 level ACDF (N=43 cases). Lin et al,[18] in their study in 2012, reported 138.07± 30.9 operative time for multi-level ACDF (N=57 cases). Liu et al,[19] in their study in 2012, reported 143.6±31.7 operative time for 3 level ACDF (N=69 cases). Kyung et al,[29]in their study in 2012 reported 186.3± 58.3 operative time for multi-level ACDF (N=25 cases). In our study, the mean of operation time of ACDF was 112.71±44.55 min which is comparable to previous studies of ACDF in literature.

Yonenobu et al,[37] in 1985 reported 6 complications in 50 ACDF cases (12%). Nirala et al,[21] in 2004 reported 16 complications in 69 ACDF cases (23.2%). Hwang et al,[14] in 2007 reported 8 complications in 27 cases of ACDF (29.6%). Uribe et al,[34] in 2009 reported one complication in 42 ACDF cases (2.4%). Guo et al,[12] in 2011 reported one complication in 43 cases of ACDF (2.3%). Kyung et al,[29] in 2012 mentioned 10 postoperative events in 25 cases of ACDF (40%). Lin et al.[18] in 2012 stated 11 complications in 57 cases of ACDF (19.3%). Liu et al,[19] in 2012 found 15 complications in 69 ACDF cases (21.7%). (Table 8) In our study, we reported 6 complications (10.2%) of 59 patients. There were 4 cases of postoperative dysphagia (6.8%) and 2 cases of postoperative hoarseness (3.4%). There was no postoperative CSF leak (0%) and also there was no reported intraoperative complication (0%). The etiology of dysphagia may be due to hematoma formation and prolonged retraction and denervation of the upper esophagus caused by pharyngeal plexus injury.[35] The etiology of post-operative hoarseness has been attributed to be caused by direct injury to recurrent or superior laryngeal nerves.[13,36]

Post-operative dysphagia has been reported in some studies[1,13] to occur in 2-48% of patients and post-operative hoarseness to occur in 3-11% of patients, though these symptoms are mostly transient. In our study, dysphagia has been recorded to occur in 6.8% of patients (4 cases), while hoarseness occurred in 3.4% of patients (2 cases).

Conclusion

Surgical loupe could be a good alternative to microscope in ACDF in resources- limited centers.

Reference

1. Apfelbaum RI, Kriskovich MD, Haller JR: On the incidence, cause, and prevention of recurrent laryngeal nerve palsies during anterior cervical spine surgery. Spine 25:2906-2912, 2000
2. Bazaz R, Lee MJ, Yoo JU: Incidence of dysphagia after anterior cervical spine surgery: a prospective study. Spine 27:2453-2458, 2002
3. Bohlman HH, Emery SE, Goodfellow DB, Jones PK: Robinson anterior cervical discectomy and arthrodesis for cervical radiculopathy. Long-term follow-up of one hundred and twenty-two patients. J Bone Joint Surg Am 75:1298-1307, 1993
4. Brigham CD, Tsahakis PJ: Anterior cervical foraminotomy and fusion. Surgical technique

and results. Spine 20:766-770, 1995
5. Cauthen JC, Kinard RE, Vogler JB, Jackson DE, DePaz OB, Hunter OL, Wasserburger LB, Williams VM: Outcome analysis of noninstrumented anterior cervical discectomy and interbody fusion in 348 patients. Spine 23:188-192, 1998
6. Clements DH, O'Leary PF: Anterior cervical discectomy and fusion. Spine 15:1023-1025, 1990
7. Danto J, DiCapua J, Nardi D, Pekmezaris R, Moise G, Lesser M, Dimarzio P: Multiple cervical levels: increased risk of dysphagia and dysphonia during anterior cervical discectomy. J Neurosurg Anesthesiol 24:350-355, 2012
8. Flynn TB: Neurologic complications of anterior cervical interbody fusion. Spine 7:536-539, 1982
9. Fraser JF, Hartl R: Anterior approaches to fusion of the cervical spine: a metaanalysis of fusion rates. J Neurosurg Spine 6:298-303, 2007
10. Frempong-Boadu A, Houten JK, Osborn B, Opulencia J, Kells L, Guida DD, Le Roux PD: Swallowing and speech dysfunction in patients undergoing anterior cervical discectomy and fusion: a prospective, objective preoperative and postoperative assessment. J Spinal Disord Tech 15:362-368, 2002
11. FRYKHOLM R: Deformities of dural pouches and strictures of dural sheaths in the cervical region producing nerve-root compression; a contribution to the etiology and operative treatment of brachial neuralgia. J Neurosurg 4:403-413, 1947
12. Guo Q, Bi X, Ni B, Lu X, Chen J, Yang J, Yu Y: Outcomes of three anterior decompression and fusion techniques in the treatment of three-level cervical spondylosis. Eur Spine J 20:1539-1544, 2011
13. Heeneman H: Vocal cord paralysis following approaches to the anterior cervical spine. Laryngoscope 83:17-21, 1973
14. Hwang SL, Lee KS, Su YF, Kuo TH, Lieu AS, Lin CL, Howng SL, Hwang YF: Anterior corpectomy with iliac bone fusion or discectomy with interbody titanium cage fusion for multilevel cervical degenerated disc disease. J Spinal Disord Tech 20:565-570, 2007
15. Inamasu J, Guiot BH: Vascular injury and complication in neurosurgical spine surgery. Acta Neurochir (Wien) 148:375-387, 2006
16. Kepler CK, Rihn JA, Bennett JD, Anderson DG, Vaccaro AR, Albert TJ, Hilibrand AS: Dysphagia and soft-tissue swelling after anterior cervical surgery: a radiographic analysis. Spine J 12:639-644, 2012
17. Laing RJ, Ng I, Seeley HM, Hutchinson PJ: Prospective study of clinical and radiological outcome after anterior cervical discectomy. Br J Neurosurg 15:319-323, 2001
18. Lin Q, Zhou X, Wang X, Cao P, Tsai N, Yuan W: A comparison of anterior cervical discectomy and corpectomy in patients with multilevel cervical spondylotic myelopathy. Eur Spine J 21:474-481, 2012
19. Liu Y, Hou Y, Yang L, Chen H, Wang X, Wu X, Gao R, Wang C, Yuan W: Comparison of 3 reconstructive techniques in the surgical management of multilevel cervical spondylotic myelopathy. Spine 37:E1450-E1458, 2012
20. Martin RE, Neary MA, Diamant NE: Dysphagia following anterior cervical spine surgery. Dysphagia 12:2-8, 1997
21. Nirala AP, Husain M, Vatsal DK: A retrospective study of multiple interbody grafting and long segment strut grafting following multilevel anterior cervical decompression. Br J Neurosurg 18:227-232, 2004
22. Oh MC, Zhang HY, Park JY, Kim KS: Two-level anterior cervical discectomy versus one-level corpectomy in cervical spondylotic myelopathy. Spine 34:692-696, 2009
23. Ponnappan RK NAKJ: Anterior decompression,instrumentation, fusion techniques: Corpectomy, Strut Grafting, in Bridwell KH DR (ed): The Textbook of Spinal Surgery. Philadelphia, Lippincott Williams & Wilkins, 2011, pp 236-252
24. Ponnappan RK NAKJ: Anterior decompression,instrumentation, fusion techniques: Discectomy, foraminotomy,disc space carpentry, in Bridwell KH DR (ed): The text-book of Spinal Surgery. Philadelphia, Lippincott Williams &Wilkins, 2011, pp 253-267
25. Schneeberger AG, Boos N, Schwarzenbach O, Aebi M: Anterior cervical interbody fusion with plate fixation for chronic spondylotic radiculopathy: a 2- to 8-year follow-up. J Spinal Disord 12:215-220, 1999

26. Senter HJ, Kortyna R, Kemp WR: Anterior cervical discectomy with hydroxylapatite fusion. Neurosurgery 25:39-42, 1989
27. Smith-Hammond CA, New KC, Pietrobon R, Curtis DJ, Scharver CH, Turner DA: Prospective analysis of incidence and risk factors of dysphagia in spine surgery patients: comparison of anterior cervical, posterior cervical, and lumbar procedures. Spine 29:1441-1446, 2004
28. Soliman HM: Cervical microendoscopic discectomy and fusion: does it affect the postoperative course and the complication rate? A blinded randomized controlled trial. Spine 38:2064-2070, 2013
29. Song KJ, Lee KB, Song JH: Efficacy of multilevel anterior cervical discectomy and fusion versus corpectomy and fusion for multilevel cervical spondylotic myelopathy: a minimum 5-year follow-up study. Eur Spine J 21:1551-1557, 2012
30. Sonntag VK, Han PP, Vishteh AG: Anterior cervical discectomy. Neurosurgery 49:909-912, 2001
31. Tan J, Zheng Y, Gong L, Liu X, Li J, Du W: Anterior cervical discectomy and interbody fusion by endoscopic approach: a preliminary report. J Neurosurg Spine 8:17-21, 2008
32. Tew JM, Jr., Mayfield FH: Complications of surgery of the anterior cervical spine. Clin Neurosurg 23:424-434, 1976
33. Tzaan WC: Anterior percutaneous endoscopic cervical discectomy for cervical intervertebral disc herniation: outcome, complications, and technique. J Spinal Disord Tech 24:421-431, 2011
34. Uribe JS, Sangala JR, Duckworth EA, Vale FL: Comparison between anterior cervical discectomy fusion and cervical corpectomy fusion using titanium cages for reconstruction: analysis of outcome and long-term follow-up. Eur Spine J 18:654-662, 2009
35. Welsh LW, Welsh JJ, Chinnici JC: Dysphagia due to cervical spine surgery. Ann Otol Rhinol Laryngol 96:112-115, 1987
36. Winslow CP, Winslow TJ, Wax MK: Dysphonia and dysphagia following the anterior approach to the cervical spine. Arch Otolaryngol Head Neck Surg 127:51-55, 2001
37. Yonenobu K, Fuji T, Ono K, Okada K, Yamamoto T, Harada N: Choice of surgical treatment for multisegmental cervical spondylotic myelopathy. Spine 10:710-716, 1985
38. Yue WM, Brodner W, Highland TR: Persistent swallowing and voice problems after anterior cervical discectomy and fusion with allograft and plating: a 5- to 11-year follow-up study. Eur Spine J 14:677-682, 2005

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الملخص العربي

نتائج استئصال الغضروف العنقي وتثبيت الفقرات العنقية بواسطة النظارة المكبرة (العدسة) الجراحية

الخلفية العلمية: يعتبر استئصال الغضروف العنقي وتثبيت الفقرات العنقية بواسطة الميكروسكوب الجراحي هو العلاج المثالي المتعارف عليه لاعتلال جذور الأعصاب العنقية أو اعتلال الحبل الشوكي أو اعتلالهم معا نتيجة الانزلاق الغضروفي العنقي أو خشونة القناة العصبية العظمية أو كلاهما منذ ١٩٥٠. وتعتبر معدلات الإصابة بمضاعفات هذه الجراحة منخفضة جدا باستثناء مضاعفات الحنجرة والبلعوم (صعوبة الكلام، عسر البلع) ويتراوح معدل الحالات المبلغ عنها من ٥,٧٪ إلى ٩٣,٣٪.

الغرض: محاولة معرفة إمكانية استخدام النظارة المكبرة (العدسة) الجراحية وحده بأمان كبديل للميكروسكوب الجراحي.

تصميم الدراسة: ملاحظة تحليلية استعادية.

نوعية المرضى وطرق الدراسة: تقييم استعادي لنتائج ٥٩ مريض خضعوا لجراحة استئصال الغضروف العنقي وتثبيت الفقرات العنقية باستخدام النظارة المكبرة (العدسة) الجراحية بدلا من الميكروسكوب الجراحي في مستشفيات جامعة عين شمس.

النتائج: انخفض متوسط تقييم ألم الرقبة وألم جذور الأعصاب العنقية بشكل ملحوظ فورا بعد الجراحة. تحسن ضعف الذراع الناتج عن اعتلال جذور الأعصاب العنقية فورا بعد الجراحة. تحسن ضعف الأطراف الأربعة الناتج عن اعتلال الحبل الشوكي بعد شهر من الجراحة. الرضا العام من المرضي كان ممتازا في ٢٨ حالة (٤٧,٤٪) وجيد جدا في ٢٢ حالة (٣٧,٣٪) مع نتائج مرضية للغايه في ٨٤,٧٪ من المرضي. متوسط الفاصل الزمني للعودة إلى العمل بعد الجراحة (في أشهر) كان ١,٩٨ ± ٠,٥٥ . وكان متوسط وقت العملية (بالدقائق) ٤٤,٥٥ ± ١١٢,٧١.

الخلاصة: النظارة المكبرة (العدسة) الجراحية يمكن أن تكون بديلا جيدا للميكروسكوب الجراحي خصوصا في المراكز والمستشفيات الطبية محدودة التجهيزات.