

Available online at www.sciencedirect.com

ScienceDirect

The Surgeon, Journal of the Royal Colleges
of Surgeons of Edinburgh and Irelandwww.thesurgeon.net

Pseudoaneurysm of head and neck vessels has been frequently observed in road side bomb blast victims

Kamal Muhammad Yousuf, Fahad Hanif Khan*

Department of Vascular Surgery, Liaquat National Hospital, National Stadium Road, Karachi, 74800, Pakistan

ARTICLE INFO

Article history:

Received 26 February 2014

Received in revised form

9 September 2014

Accepted 18 September 2014

Available online 21 November 2014

Keywords:

Pseudoaneurysm

Head and neck

Roadside bomb blast

Surgical intervention

ABSTRACT

Background: Due to recent war situation in neighboring country we have witnessed large number of victims with post-traumatic false (pseudo) aneurysms of head and neck in roadside bomb blast victims in Pakistan. Thus through this observational retrospective study we aim to share our experience of managing these patients.

Method: 5 years patients' case records, from June 2008–June 2013, were reviewed from the hospital's records. 14 cases of roadside bomb blast victims, developing false aneurysms of major or minor vessels of head and neck, were studied. We excluded the post-traumatic pseudoaneurysms involving other sites and vessels of the body. We observed the mechanism, the duration of presentation, symptoms/signs, vessels involved, complications and the management done.

Results: All 14 cases presented with a localized pulsatile swelling with tenderness in the course of a known artery and with an overlying entry site wound from bomb blast sharp nails. Men were affected more as compared to women. All (14) cases had 2–12 weeks of duration between the injury and presentation. Temporal artery (4) was involved in most cases followed by common carotid artery (3). Open surgery was treatment of choice in 12 (85.7%) of cases; however 2 (14.3%) patients had endovascular intervention to correct the pathology. Post-operatively all patients recovered completely, without any major or minor complications.

Conclusion: Surgical intervention remains the management of choice for post-traumatic false aneurysms of head and neck in Pakistan. Despite the benefits of endovascular procedures, improvements must be weighed against the added costs on the patients.

© 2014 Royal College of Surgeons of Edinburgh (Scottish charity number SC005317) and Royal College of Surgeons in Ireland. Published by Elsevier Ltd. All rights reserved.

Introduction

Pseudo-aneurysm is formed by a defect in an arterial wall contained in the surrounding tissue.^{1,2} In post-traumatic

pseudo-aneurysms, hemorrhage occurs from the penetrating arterial lesion, which is contained and converted to haematoma by the surrounding tissues. This haematoma, having communication with the arterial lumen, has a

* Corresponding author. Tel.: +92 21 3463 07 07; fax: +92 341 40014.

E-mail addresses: vasc_clinic@hotmail.com (K.M. Yousuf), dr.fhkh@hotm.com, int_fahad@hotmail.com (F.H. Khan).

<http://dx.doi.org/10.1016/j.surge.2014.09.004>

1479-666X/© 2014 Royal College of Surgeons of Edinburgh (Scottish charity number SC005317) and Royal College of Surgeons in Ireland. Published by Elsevier Ltd. All rights reserved.

pulsatile nature. With the passage of time fibrosis occurs in the haematoma and thus makes it stable.³ Penetrating trauma including bomb blast pellets or gunshots is a leading cause of false aneurysm, apart from iatrogenic etiology.² Though this is a late complication after primary traumatic vascular injury, false aneurysms in the victims of penetrating injury presents early as compared to those from blunt injury.⁴ Post-traumatic false aneurysms do occur in increased frequency in upper and lower limb extremities,² but due to an increase in the number of cases from bomb blast and fire arm injuries in this region, as a result of recent war in the neighboring country and infrequent violent situations in this part of the world, we have experienced magnified number of patients who presented with pseudoaneurysms involving vessels of head and neck after suffering from roadside bomb blasts injuries.

The treatment options for the management of pseudoaneurysms have evolved from the conventional open surgical repair to advanced minimally invasive endovascular interventions.^{4–6} However, surgical option remains the vital choice in this region,² even in managing cases with false aneurysms of head and neck due to poor affordability of the patients and unavailability of skilled personals, along with lack of endovascular suites in most hospitals.

This study was directed to share the experience of presentation and management of these patients with post-traumatic false aneurysms of head and neck.

Materials and methods

This is a 5 years retrospective observational study from June, 2008 to June, 2013 conducted at the department of Vascular Surgery, Liaquat National Hospital, Karachi, Pakistan. Patients' records were retrieved from the department and were reviewed for the cases of roadside bomb blasts victims who later on developed pseudo-aneurysms, the sites and the vessel of injuries were identified and sorted. It is the departmental policy to inform the patients, with interesting and rare clinical scenarios, about the possible use of the data (including clinical pictures) for research purpose after ensuring the anonymity. Without limiting to any specific age group, we studied in detail only those cases which developed false aneurysms of head and neck after bomb blast injuries and the pathology involving vessels on other sites of the body were excluded. We studied the mechanism, the duration of presentation from the time of injury, symptoms with which patients presented, major and minor vascular involvement, complications and the treatment options opted (both surgical and endovascular). The ethical review board of Liaquat National Hospital, Karachi has approved this study.

Results

Over the study period, we observed 40 victims with false aneurysm of vessels of the extremities due to firearm injury and 12 with chest and abdominal injuries. We only studied in detail 14 patients with false aneurysms of head and neck secondary to road side bomb blast injuries. Male (12) to female (2) ratio was 6:1 with median age of 38 years (range: 12–54

years). All cases were as a result of small sharp nails from road side bomb blasts and presented within 2–12 weeks from the primary injury. All victims had pain, localized swelling and pulsatile mass which expanded over the time course and was related to an overlying entry site wound of bomb blast particles. One patient, with common carotid artery involvement, had symptoms of unilateral hypoglossal nerve compression. Color Doppler ultrasonography and computed topography angiography (CTA) were used to investigate the exact vessel of origin and to understand surrounding anatomy of the pseudoaneurysms.

We observed, 4 patients had involvement of temporal artery followed by common carotid artery (3), external (2) and internal carotid (2) arteries and subclavian artery (2) (Table 1). Out of 14 cases, 12 (85.7%) patients were managed surgically and 2 (16.6%) were dealt with endovascular intervention. Different techniques were used in the cases which were managed with open surgery (Fig. 1). Shunts were placed for intra-operative monitoring of the cases with common carotid and internal carotid artery false aneurysms.

The patient which was treated surgically for pseudoaneurysm involving the common carotid artery, excision and reverse vein graft repair was done using external jugular vein from same side. Two (66.6%) patients, with false aneurysm of common carotid artery, were managed using covered endovascular stents (Boston Scientific) placements. One case with false aneurysm of internal carotid artery was treated with ligation of the vessel as per-operatively the aneurysm was infected and upper limit was not approachable to correct the pathology. Post-operatively no cerebral ischemia was noted.

Mean hospital stay of patients was 5 days. Only 2 patients, who had endovascular stent placement, received anti-coagulant for 6 months, whereas, as per departmental policy, those undergoing surgical repair were prescribed anti-platelet medication for 3 months. Blood grouping and cross matching was done for the patients with pseudoaneurysms of subclavian and carotid vessels, but none developed the indications for blood transfusion.

Outcomes

All patients recovered completely from the primary symptoms, with no major post-operative complications. There was no local (infection or hematoma), systemic or neurological complications. One patient who had pre-operative hypoglossal nerve compression symptoms, too, showed improvement in the functions of the involved nerve. None of the patients required redo-procedure post-operatively. All patients were

Table 1 – Major and minor vascular involvements (n = 14).

Vessels	Total (%)
Temporal artery	4 (28.5)
Common carotid artery	3 (21.4)
External carotid artery	2 (16.6)
Internal carotid artery	2 (16.6)
Sub-clavian artery	2 (16.6)
Frontal artery	1 (7.1)

Download English Version:

<https://daneshyari.com/en/article/3178437>

Download Persian Version:

<https://daneshyari.com/article/3178437>

[Daneshyari.com](https://daneshyari.com)