Case Report

iMedPub Journals
www.imedpub.com

Journal of Vascular and Endovascular Therapy
ISSN 2634-7156

2022
Vol.7 No.6:78

# Successful Incorporation of Patient Values and Preferences to Shared Decision-Making on Repair of Complex Thoraco-Abdominal Aortic Aneurysms

**Albert C Gaw, M.D.***

Department of Psychiatry, University of California Medical School at San Francisco, California, United States

***Corresponding author:** Albert C Gaw, Department of Psychiatry, University of California Medical School at San Francisco, California, United States, E-mail: algawmd@yahoo.com

**Received date:** May 02, 2022, Manuscript No. IPJVES-22-13575; **Editor assigned date:** May 04, 2022, PreQC No. IPJVES-22-13575 (PQ); **Reviewed date:** May 16, 2022, QC No IPJVES-22-13575; **Revised date:** May 25, 2022, Manuscript No. IPJVES-22-13575 (R); **Published date:** May 31, 2022, DOI: 10.36648/2634-7156.7.6.4603

**Citation:** Gaw A (2022) Successful Incorporation of Patient Values and Preferences to Shared Decision-Making on Repair of Complex Thoraco-Abdominal Aortic Aneurysms. Int J Vasc Endovasc Therapy Vol.7 No.6:4603

## Abstract

**Background and purpose of paper:** Complex Thoraco-Abdominal Aortic Aneurysms (TAAAs) confront both patients and providers with difficult treatment decisions. In recent decades, a Shared Decision-Making (SDM) approach has been advanced to achieve a patient-centered care. The case here illustrates, from the patient's perspective, the successful incorporation of patient values and preferences to a shared decision-making on an Endovascular Aortic Aneurysm Repair (EVAR) for his complex thoraco-abdominal aortic aneurysms.

**Case presentation:** An 81 year old married, male, retired physician, a person of faith, felt a pulsating abdominal mass, which on angiograms revealed the presence of Crawford type IV complex thoraco-abdominal aneurysms.

The patient has felt well and has remained asymptomatic. Risk factors such as hypertension, hyperlipidemia, smoking, stress, and a family history of aneurysm were either absent or under-controlled. Both blood tests and a whole body scan revealed no evidence of infection. A nuclear cardiac stress test showed normal left ventricular perfusion. Three treatment options—watchful waiting, open surgery and EVAR—were available. Surgeon recommended EVAR.

Navigating Patient values and preferences were reflected in SDM in the assessments of short- and long-term risk factors; support and suggestion from friends, family and colleagues; scriptural support from persons of faith; assessment of projected post-treatment quality of life; rehabilitation plan; financial resources; planning for future goals; and consideration of personal moral and psycho-spiritual issues, including dreams and their interpretation.

**Conclusion:** SDM provides an egalitarian model of patient/clinician interaction, encourages patients taking an active role in decision-making, allows exploration of patient values and preferences that provide the context to the technical aspects of the treatment procedure in order to achieve a patient-centered care on the repair of complex TAAAs.

**Keywords:** Shared decision-making for repair of complex thoraco-abdominal aortic aneurysms; Subjective values and preferences in treatment decision; Dream; Psycho-spirituality

## Introduction

Complex Thoraco-Abdominal Aortic Aneurysms (TAAAs) confront both patients and clinicians with difficult treatment decisions. In recent decades, a Shared Decision Making (SDM) approach between patients and their providers has been advanced to achieve a patient-centered care [1]. This paper illustrates, from the patient's perspective, the successful incorporation of patient values and preferences through SDM on joint decision on repair of complex TAAAs.

## Shared Decision-Making

Shared Decision-Making (SDM) has been defined as "an approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences" [1]. SDM aims to promote patients' active role in decisions concerning their health care [2]. As an ethical and social imperative to enhance patient-centered care, SDM has been extended into the concept of informed consent [3]. In this process, patient's preference in treatment choice and resolution of treatment concerns are emphasized. Moreover, inputs from patient's family and friends may be involved in a variety of roles such as the collector of information, the interpreter of this information, coach, advisor, negotiator, and caretaker [4]. As silent partners, their participation may not be evident, but their opinions may exert powerful influences in patient's decision-making. Studies have shown that SDM increases patients receiving treatment more consistent with their values. They were more satisfied, less anxious and have more knowledge about their disease and possible treatment options and experienced improved health outcome, better adherence to treatment, and enhanced quality of life [5].

As in TAAAs, SDM would seem particularly suited for patients facing a treatment decision where options exist. Yet, a recent systematic review of shared decision in surgery revealed that

© Copyright iMedPub | This article is available from: https://vascular-endovascular-therapy.imedpub.com/focus-scope.php

44% of providers perceived their consultations more than their patients (29%) as shared decision-making [6]. In an exploratory study of SDM among vascular surgeons of four Dutch hospitals on selected consultations with patients who were facing a treatment decision, both patients and surgeons scored high on the SDM questionnaires, but not on the independent observers' patient involvement rating scale…"surgeons hardly ever asked the patients for their preferred approach to receive information, whether they had understood the provided information, and how they would like to be involved in SDM [5]." Swart and McCarthy [7] described their experience of shared decision consultation in a perioperative clinic to deal with the medical complexities of surgical patients referred for Abdominal Aortic Aneurysm (AAA). They felt that patients' personal preferences are often unpredictable from the clinicians' perspective and their comfort in revealing deep personal thoughts with clinicians.

Although SDM emphasized inclusion of patients' subjective experience, the literature has meager information on how this interaction actually transpired in the patient/surgeon interaction. Hardly any reported actual experiences from the patient's perspective. Such personal information may not be easily accessible through questionnaires or even brief structured interviews. Thus, there is need for the inclusion of more qualitative personal data to inform what internal and external influences may encourage, support, and facilitate the shared decision-making process [2]. The case here dramaturgically illustrates such a process by which patients and their family and their providers can actively explore these hidden subjective domain of information through SDM principles to help reach medical decision on repair of complex TAAAs.

## Case Presentation

### Discovery of the aneurysms

An 81 year old married, male, retired physician, a person of faith, felt a pulsating abdominal mass, which on ultrasound sonography and an abdomen and pelvic CT angiogram revealed the following key findings: (1) A supra-renal 4.5 cm anterior saccular aortic aneurysm just above the celiac artery. (2) A small 2.7 cm aneurysm at or right above the level of the renal artery. (3) An infrarenal abdominal 6.9 cm aortic aneurysm with non-occlusive thrombus in the aneurysmal sac. (4) A 2.6 cm fusiform aneurysm seen in the right common iliac artery, with ulcerative plague noted.

A diagnosis of Crawford type IV complex thoraco-abdominal aneurysms was given [8].

### Medical history

The patient has felt well and has remained asymptomatic. Risk factors such as hypertension, hyperlipidemia, smoking (he is a non-smoker), stress, and a family history of aneurysm were either absent or under-controlled. Both blood tests and a whole body Positron Emission Tomography and Computer Tomography (PET/CT CTAC) revealed no evidence of infection [9]. Because of a past history of a coronary artery stent, a nuclear cardiac stress test showed normal left ventricular perfusion. The patient was considered an eligible candidate for an aortic repair. The surgeon recommended treatment with a multi-branched stent/graft through participation in a research protocol available only to FDA-approved providers and institutions [10]. The informed consent protocol listed various risk factors of each of the three treatment options: watchful waiting, open abdominal surgery, Endovascular Aortic Repair (EVAR).

### Risk assessments

Table 1 summarized the risks and decision tasks of each the three treatment options. Additionally, the patient researched key internet publications concerning the recommended treatment [11,12].

**Comparative risks of no treatment, surgery, and EVAR stent/graft branched procedure for a repair of complex Thoraco-Abdominal Aortic Aneurysms (TAAAs)**

| Risk factor | No treatment | Open procedure | EVAR |
|---|---|---|---|
| Mortality | | 19%-30% | 5%-10% |
| Rupture in 1 yr | 19% to 33% | Unknown | Unknown |
| Rupture risk in 2 years | 50%-75% | Unknown | Unknown |
| Death upon rupture | 80%-90% | Unknown | Unknown |
| General risks | | Unknown | <5% |
| Subsequent complications | | Unknown | Unknown |
| Stroke | | Unknown | <5% |
| Paralysis | | 5%-16% | 3%-7% |
| Blockage of flow to a kidney (long term) | | Unkown | 14%-18% |
| Kidney failure from dye injection | | Unknown | <5% |
| Dialysis | | 14% | 2%-6% |
| Occlusion of one of the branches | | Unknown | 2%-6% |
| Abnormal post-op bleeding from inflammation-like process | | Unknown | 6%-10% |
| Heart complications | | 14%-19% | Unknown |
| Lung complications | | 19% | Unknown |
| Damage to nerves in arm | | 0% | <5% |

| | | | |
|---|---|---|---|
| Re-operation rate | | 25% | Unknown |
| Additional procedures after implant | | Unknown | 23%-27% |
| Endoleak requiring additional treatment | | Unknown | 9%-13% |
| Medications | | Same | Same |
| Radiation | | Unknown | More than natural exposure |
| Incision | | Long | Short |

**Table 1.** Comparative risks of No Treatment, Surgery, and EVAR Stent/Graft branched procedure for a repair of complex Thoraco-Abdominal Aortic Aneurysms (TAAAs)

Subjective data included patient's tolerance of the short- and long-term risk factors, support and suggestions from friends and colleagues, scriptural support, assessment of post-treatment quality of life, rehabilitation plan, financial resources, planning for future goals, as well as personal moral and psycho-spiritual issues, including dreams and their interpretations.

## Moral and psychospiritual issues

At age 81 and in relatively good health and asymptomatic, he wondered what is his projected life longevity, God willing? Could he afford to wait and risk aneurysmal rupture? If ruptured, should he allow an emergency surgery or an EVAR? If he were to have an elective EVAR, would he accept potential complications such as compromised renal functions, and possible dialysis? If he has spinal ischemic injury and becomes paralyzed, is life worth living? Does he have enough resources provided for himself and his family? Following aneurysmal repair, what would be the quality of his life?

## To treat or not to treat

Could the patient afford to wait and take the risk of future aneurysmal rupture? The informed consent stated that the risk of aneurysmal rupture without surgical intervention is about 19%-33% in one year, 50%-75% in two years. Death upon rupture is about 80%-90%. The literature revealed no clear study of the natural history of abdominal aneurysm [13], so that it was hard to predict how long can he afford to wait. Since he is asymptomatic, he thought why should he complicate his life by having an operation just to prevent future rupture? Who can predict how much more stress the aneurysmal wall can endure? With his risk factors well-controlled, couldn't he risk being in the 30% survival group in two years?

The key issue for him was the clarification of his life goals. The patient asked his vascular surgeon what he would do if he were in the patient's place. The surgeon replied: "You're 81. Your health has been good. You're asymptomatic. The risk factors are well controlled. You don't smoke hypertension well-controlled, on statin lowering your lipids. You exercise regularly. You're in physical good shape. The question that remains on whether you feel you still have places to travel, whether there are still things you dearly want to accomplish. Then I would consider procedure to lengthen my life. On the other hand, if you feel you've done what you wanted to do in life, then I might consider taking a chance of waiting it out."

The patient and his wife didn't feel the urge in traveling during this pandemic season.

Deciding his future post-operative goals was less clear. As a believer, he had desired to dig deeper into the scriptural basis of his faith, and to amalgamate Christian religious precepts with his medical knowledge through research, writings, and presentations. Moreover, he felt continuing living would provide more stability to his family.

## Conversations with friends and colleagues

Friends and colleagues offered many sound advices and prayers. Many sent comforting scriptural verses (e.g., Psalm 91, Psalm 46:1, Romans 12:12). Serendipitously, 2 unsolicited e-mails both mentioned Psalm 16, a miktam, a Jewish term occasioned by great danger written by King David. It commenced with King David's cry and petition, "Keep me safe, O God, for in you I take refuge. I said to the Lord, 'you're my Lord; apart from you I have no good things' (Psalm 16:1-2)." Psalm 16 concluded with King David's testimony: "Therefore my heart is glad and my tongue rejoices; my body will rest secure, you have made known to me the path of life (Psalm 16:9-11)." In the depth of life's danger, could the patient pray, as King David did, that he'll still trust God? Would he still cling to St. Paul's admonition: "All things worked together for those who loved him (God) (Romans 8:28)." Is there a divine message amidst his illness? If God grants him another 5-10 more years, what would be his life's goals and how would he meaningfully forward live? He pondered on the meaning of his illness and life as occasioned by the writing of the holocaust survivor and psychiatrist, Victor Frankl's "Man search for meaning [14]."

Such questions bate the patient's future planning and inject an acute sense of the realization of his mortality. Before the discovery of his aneurysms, he had been planning with his financial adviser on the resources he might need based on a projected life expectancy of 10-13 more years. Now, he feels the time-frame needs to be truncated to 5 or less years. And his family has to adjust to and be prepared for a forthcoming surgical procedure and post-interventional recovery which may take at least 2 weeks-4 weeks. The patient vacillated on the options of TAAA repair.

## Conversations with family members

His daughter asked him,"What will be the quality of life after surgery?"

His reply,"I don't know. It depends on a lot of factors, mostly on whether there might be post-surgical complications. But this is not what may determine my course of actions. To me, the question is if the aneurysm bursts, what will I do? Most likely, I'd

© Copyright iMedPub

be brought to the emergency room. Since around 50% of ruptured aneurysm results in death, if I survive the bleeding, the ER doctor may want to admit me and consider emergency surgery. At that point, will I decide to be operated on or just call it quit?"

Patient felt unsure still about having the aortic repair. He divulged to his wife that he was leaning toward an EVAR. He asked her for her opinion and she mentioned that, at her age (she's a year younger) she would not risk "messing" her body with a major repair. But the final decision rests with the patient.

### Dreams and the role of the unconscious

Faced with the ambivalence and uncertainty in deciding the best treatment option, the patient reported two dreams [15]. The dreams gave the hint to go with the EVAR procedure. They assuaged his conflicted feelings about having treatment. Mostly, the dreams reassured him that he and his family will be OK. As the dreams indicated, he still has to continue taking care of his body to stay healthy.

## Results

SDM allows the inclusion of patient values and preferences—reflected through conversations with his friends, colleagues, family and consideration of his dreams and spirituality—to instill a sense of peace and confidence in the patient and his family. The preponderance of data convinced the patient the merit of EVAR over that of the watchful waiting and an open surgery and enabled the patient and his vascular surgeon to reach a decision for him to sign up in the research project for the Endovascular Aneurysms Repair (EVARs).

## Discussion

The case here dramaturgically illustrates how SDM principles can allow patient values and preferences be successfully incorporated into shared medical-decision on repair of complex TAAAs. This case is also unique in that it included both conscious (objective) and rarely reported unconscious (dream) data in shared decision-making. Navigating the medical decisions regarding the treatment options for TAAAs comes down in weighing the benefit/risk ratio of the three treatment options (Watchful Waiting, Open Surgery, and EVAR). Objectively, since the natural history of TAAAs in seniors is still unavailable [13], the choice for watchful waiting is difficult to determine and requires more research. With a hugely enlarged infra-renal aneurysm of 6.9 cm, the patient felt the risk of 50%-75% chance of an aneurysmal rupture in two years in watchful waiting is unacceptable. The patient disfavored the peri-operative risk as well as the longer post-operative recovery period of open abdominal surgery. Although the peri-operative mortality risk seemed to favor the EVAR, the long-term advantage of EVAR over open surgery remains uncertain [16]. Thus, the choices of treatment come down on weighing the nature of the patient's unique aneurysmal situation, the least amount of risks involved with each treatment option that is consistent with his life's goals, the technical skill and experience of the vascular surgeon and the treatment team, the availability of the type of stent/graft, and his feelings about the procedure. At age 81, being a person of faith, consideration of his spiritual needs strongly entered into his decision-making. His spirituality helped to define the meaning and direction of his future life goals. Concern for his family and his quest for life further motivated him to seek treatment. His dreams helped resolved his conflicted feeling about treatment. SDM provides an egalitarian model of patient/clinician interaction. It encourages patient to take an active role in negotiating the vicissitude of treatment decisions. It allows exploration of patient values and preferences that provide the context to the technical aspects of the treatment procedure in order to achieve a patient-centered care on the repair of complex TAAAs.

## Limitations

The unique experience of this single case would require a larger cohort of patients for the findings to be more generalizable to other TAAAs recipients. Also, the psycho-spiritual perspective in this decision-making may not be applicable to non-believers or persons holding different religious belief. Yet, it can be argued that most patients with similar diagnoses will likely agonize over treatment decisions with their own unspoken life agenda. This narrative is a rare detailed documentation of the subjective experience of silent suffering brought about by the discovery of late-life complex TAAAs and the complexity and difficulty in navigating the treatment-decisions. The report indicates that patients' subjective values and preferences could play crucial influence in the acceptance or rejection of treatment options. More researches in this subjective dimension of treatment-decision are needed. Moreover, both providers and patients should be cognizant of and be sensitive to this subjective dimension in SDM when choosing optimal treatment options for complex TAAAs repair.

## Conclusion

SDM provides an egalitarian model of patient/clinician interaction, encourages patients taking an active role in decision-making, allows exploration of patient values and preferences that provide the context to the technical aspects of the treatment procedure in order to achieve a patient-centered care on the repair of complex TAAAs.

## References

1. Elwyn G, Frosch D, Thomson R, Joseph-Williams N, Lloyd A, et al. (2012) Shared decision making: a model for clinical practice. J Gen Intern Med 27: 1361–7.
2. Truglio-Londrigan M, Slyer JT, Singleton JK, Worral P (2012) A qualitative systematic review of internal and external influences on shared decision-making in all health care settings. JBI Libr Syst Rev 10: 4633-4646.
3. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. Making health care decisions: The ethical and legal implications of informed consent in the patient-practitioner relationship. Washington: US Government Printing Office, 1982:33.

4. Siminoff LA (2013) Incorporating patient and family preferences into evidence-based medicine. BMC Med Inform Decis Mak. 13: S3- S6.
5. Santema TB, Stubenrouch FE, Koelemay MJW, Vahl AC, Vermeul CFW, et al. (2016) Shared decision making in vascular surgery: an exploratory study. Eur J Vasc Endovasc Surg 51: 587-593.
6. De Mik SML, Stubenrouch FE, Balm R, Ubbink DT (2018) Systematic review of shared decision-making in surgery. Br J Surg 105: 1721–1730.
7. Swart M, McCarthy R (2019) Shared decision making for elective abdominal aortic aneurysm surgery. Clin Med (Lond). 19: 473–477.
8. Crawford ES, Coselli JS (1991) "Thoracoabdominal aneurysm surgery." Semin Thorac Cardiovasc Surg 3: 300-322.
9. Lee W, Mossop PJ, Little AF, Fitt GJ, Vrazas JI, et al. (2008) Infected (mycotic) aneurysms: Spectrum of imaging appearances and management. RSNA 28: 1853-68.
10. Walker J, Kaushik S, Hoffman M, Gasper W, Hiramoto J, et al. (2019) Long-term durability of multibranched endovascular repair of thoracoabdominal and pararenal aortic aneurysms. J Vasc Surg. 69: 341-347.
11. Al-Omran M, Verma S, Lindsay TF, Weisel RD, Sternbach Y (2004) Clinical decision making for endovascular repair of abdominal aortic aneurysm. Circulation 110: e517-e523.
12. Chaikof EL, Dalman RL, Eskandari MK, Patel MS, Schermerhorn ML, et al. (2018) The society for vascular surgery practice guidelines on the care of patients with an abdominal aortic aneurysm. J Vasc Surg 67: P2-77. [Crossref], [Google Scholar], [Indexed]
13. Lederle FA (2009) The natural history of abdominal aortic aneurysm. Acta Chirurgica Belgica 109: 7-12.
14. Frankl VE (1984 ) Man's search for meaning: an introduction to logotherapy a touchstone book (3rd ed). Simon and Schuster, New York,USA
15. Gaw AC (2021) Letter to the editor. A psychospiritual perspective of decision-making for a complex thoracoabdominal aortic aneurysm repair. J Vasc Surg. 73:353-354.
16. Antoniou GA, Juszczak MT, Antoniou SA, Katsargyris A, Haulon S (2021) Editor's choice-Fenestrated or branched endovascular versus open repair for complex aortic aneurysms: Meta-analysis of time to event propensity score matched data. Eur J Vasc Endovasc Surg. 61: 228-237.

© Copyright iMedPub