Introduction and Objective

Vascular Surgery developed as a subspecialty of general surgery in 1982. A traditional vascular surgery residency program (5+2) includes a 5 year residency in general surgery followed by a 2 year fellowship in vascular surgery. This traditional 7 (5+2) year course to become a vascular surgeon is one of the longest training courses in medicine. Because of the increasing prevalence of cardiovascular disease in the United States, there has been an increased demand for competent vascular surgeons in our healthcare system. However, the number of applicants to vascular surgery fellowships has not increased enough to meet that demand. In order to address the increasing gap between the supply and demand of vascular surgeons, the Accreditation Council for Graduate Medical Education (ACGME) approved an integrated 5 (0+5) year vascular surgery residency program in 2006.

Since integrated vascular surgery residency programs are relatively new, there has been some question in the vascular surgery field regarding the readiness, experience, and overall competency of integrated vascular surgeons. Therefore, it is important to assess the competencies of both physicians graduating from traditional vascular surgery programs (5+2) and physicians graduating from integrated vascular surgery programs (0+5). The aim of this study was to compare the operative experience of the integrated 0+5 vs traditional 5+2 vascular surgery residents graduating between 2013 and 2018.

Methods

Operative case log data from the ACGME was obtained. Operative case log data is reported and updated annually on the ACGME website (www.acgme.org), and can be found under “Case Log Statistical Reports” within the “Data Collection Systems” archives. All of this data is made available to the public.

The operative logs for the 0+5 integrated vascular residents (IVRs) consisted of data obtained for those graduating between 2013 and 2018. The operative logs for the traditional 5+2 graduates consisted of two parts in order to account for both the general surgery and vascular surgery fellowship components of their training. For example, the case logs of general surgery residents (GSRs) who graduated in 2011 were combined with those of vascular surgery fellows (VSFs) who graduated in 2013.

Total operative case log means and standard deviations were gathered and tabulated for each group. The categories for each of the charts were based on the categories set by the ACGME. We included all subcategories of the ACGME coding groups. Further, we manually created four additional categories to assess including open aneurysm, endovascular aneurysm, open peripheral obstruction, and endovascular peripheral obstruction. Means and standard deviations were recalculated in accordance to these adjustments for each manual grouping.

Results

Our compiled data can be visualized in graphs. For the operative log graphs, the 5+2 trainees are represented by the blue bar (dark blue for cases performed during their vascular surgery fellowship and light blue for cases performed during their general surgery residency (Figures 1 and 2). The 0+5 trainees are represented by the orange bar. The numbers of residents, fellows, and programs for both groups can also be visualized (Figures 3 and 4).

Conclusions

The greatest difference between the two groups was realized in the total number of cases performed. The 5+2 trainees performed nearly 600 more mean total cases than their 0+5 counterpart during the total course of their respective training. This does not come as a surprise given that the traditional 5+2 trainees have 2 additional years of training built into their program. It is hard to assess the degree of improved competency with 2 additional years of residency training. Further, we observed that the greater number of cases performed by the 5+2 trainees includes many non-vascular procedures such as biliary, small intestine, and large intestine. It is arguable whether or not performing these additional non-vascular procedures enhances the 5+2 graduates’ vascular training experience. Some may argue that the 0+5 trainees performing more total vascular procedures makes the integrated 0+5 program superior in terms of training vascular-specific surgeons. However, others may argue that the general surgical skills and overall increased time spent training in the operating room makes the traditional 5+2 program superior.

The biggest limitation of our study was that operative case log data may not be the best surrogate for measuring surgical and clinical abilities despite being uniform, objective, and easily trackable. Vascular Surgery-In-Training score tracking, milestone achievements, in-service examination scores, critical care experiences etc... are other surrogate markers that can be used to assess the two groups moving forward. Ultimately, there are many factors to consider. Continuing to assess this new vascular training paradigm has the power to change perceptions about each program while better informing medical school graduates who wish to pursue a career in vascular surgery.

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References