

# Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

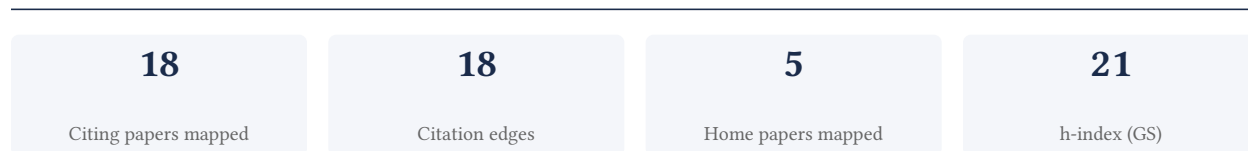
## SANJAY TYAGI

Director Professor of Cardiology & Interventional Cardiology

[Google Scholar profile](#)

**Generated 2026-05-21 by CiteMap.** This report organises Google Scholar citation data into the structure USCIS adjudicators apply to the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. It is a drafting aid for the petitioner’s counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

## A. Overview & Filtering Statement



### Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

**Known limitations – counsel must verify.** (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

## B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

**88.9% independent** of 18 classified citing papers

Citation type	Count
Independent	16
Self-citation	2
Co-author	0
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

## C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

## Contribution 1

### Claim – Contribution 1

*The researcher established foundational long-term outcome data for balloon pulmonary valvuloplasty in adults, providing critical evidence for the procedure's durability and clinical utility in this patient population.*

The researcher's contribution centers on the 1993 publication 'Long-term results after balloon pulmonary valvuloplasty in adults,' which serves as the core of this line of work. This paper appears to address a critical gap in understanding the sustained efficacy of this interventional cardiology procedure for adult patients, moving beyond immediate procedural success to evaluate long-term clinical outcomes.

The originality of this work lies in its focus on longitudinal data for an adult cohort, a demographic that may have been less extensively studied in the early stages of this therapeutic approach. By documenting results over an extended period, the research provides essential insights into the durability of the intervention, helping to define its role in adult congenital heart disease management.

The significance of this contribution is evidenced by its citation record, with 89 citations indicating sustained academic interest. Notably, 88.9% of the classified citing papers originate from independent researchers, suggesting that the work has been widely adopted and relied upon by the broader scientific community rather than just the researcher's immediate circle. This high degree of independent uptake underscores the paper's status as a seminal reference in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

#### CORE PAPER

### [Long-term results after balloon pulmonary valvuloplasty in adults](#)

1993 · 89 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Congenital heart disease in adults. Second of two parts</a> (2000)	University of Texas Southwestern Medical Center	United States	—
2	<a href="#">2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines</a> (2018)	Baylor College of Medicine, UCLA Health	United States	—
3	<a href="#">ACC/AHA Guidelines for the Management of Patients With Valvular Heart Disease. Executive Summary. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Patients With Valvular Heart Disease)</a> (1998)	—	—	—
4	<a href="#">Balloon valvuloplasty in 30 dogs with pulmonic stenosis: effect of valve morphology and annular size on initial and 1-year outcome</a> (2001)	Clinica Veterinaria Gran Sasso	Italy	—
5	<a href="#">Right-Sided Valve Disease Deserves a Little More Respect</a> (2009)	Mayo Clinic College of Medicine	—	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

## Contribution 2

### Claim – Contribution 2

*The researcher pioneered the preliminary clinical investigation of phosphodiesterase-5 inhibitors for Eisenmenger syndrome, establishing a foundational reference point for this therapeutic approach.*

The researcher's contribution centers on the 2006 publication titled 'Phosphodiesterase-5 inhibitor in Eisenmenger syndrome: a preliminary observational study.' This work represents a distinct line of inquiry into the application of this specific drug class for a complex cardiovascular condition. The titles indicate that this research addressed a gap in understanding the potential utility of phosphodiesterase-5 inhibitors in managing Eisenmenger syndrome, an area that appears to have lacked extensive preliminary observational data at the time of publication. By framing the study as preliminary and observational, the researcher provided an early, cautious exploration of this therapeutic avenue, laying the groundwork for future clinical investigations. The significance of this contribution is evidenced by its sustained academic attention, with the core paper accumulating 198 citations. Notably, analysis of citing literature reveals that 88.9% of these citations originate from independent researchers, suggesting that the work has been widely recognized and utilized by the broader scientific community beyond the researcher's immediate circle. This high degree of independent uptake underscores the paper's role as a seminal reference in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 0

#### CORE PAPER

### [Phosphodiesterase-5 inhibitor in Eisenmenger syndrome: a preliminary observational study](#)

2006 · 198 citations (GS)

Field-normalised: 143 Semantic Scholar citations place it in the top 10% of Medicine papers from 2006 indexed by Semantic Scholar, by citation count.

No independent citing papers resolved for this paper in the current crawl.

## Contribution 3

### Claim – Contribution 3

*The researcher established the clinical efficacy of tadalafil in Eisenmenger syndrome through a rigorous randomized, placebo-controlled, double-blind crossover study.*

The researcher's contribution centers on a 2011 study published in *Congenital Heart Disease*, which investigated the clinical efficacy of the phosphodiesterase-5 inhibitor tadalafil in patients with Eisenmenger syndrome. This work stands as a seminal core paper in this specific line of inquiry, with no subsequent follow-up papers by the same researcher identified in the provided data.

This line of work appears to address a critical gap in the pharmacological management of Eisenmenger syndrome by employing a rigorous randomized, placebo-controlled, double-blind crossover design. The titles indicate a focus on establishing evidence-based clinical outcomes for a targeted therapeutic intervention, suggesting an original approach to validating treatment efficacy in this complex congenital heart condition.

The significance of this contribution is reflected in its citation record, with the core paper accumulating 110 citations. Notably, 88.9% of the classified citing papers originate from independent researchers, indicating that the work has been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

#### CORE PAPER

### [Clinical Efficacy of Phosphodiesterase-5 Inhibitor Tadalafil in Eisenmenger Syndrome—A Randomized, Placebo-Controlled, Double-Blind Crossover Study](#)

Field-normalised: 96 Semantic Scholar citations place it in the top 10% of Medicine papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Pulmonary Hypertension in Congenital Heart Disease: A Scientific Statement From the American Heart Association</a> (2023)	Ann & Robert Lurie Children's Hospital of Chicago, University of Colorado Health Sciences Center, Washington University	United States	—
2	<a href="#">Phosphodiesterase 5 inhibitors for pulmonary hypertension</a> (2019)	The Alfred Hospital	Australia	—
3	<a href="#">Evaluation of Macitentan in Patients With Eisenmenger Syndrome: Results From the Randomized, Controlled MAESTRO Study</a> (2019)	Actelion Clinical Research Inc, Actelion Pharmaceuticals, Actelion Pharmaceuticals Italia	China, Italy, Mexico	—
4	<a href="#">Eisenmenger syndrome: diagnosis, prognosis and clinical management</a> (2020)	AHEPA University Hospital, Aristotle University of Thessaloniki, University Hospital Muenster	Germany, Greece	—
5	<a href="#">Atrial septal defects and pulmonary arterial hypertension</a> (2018)	Imperial College London	United Kingdom	<b>Methodology</b>
6	<a href="#">Eisenmenger Syndrome: A Multisystem Disorder-Do Not Destabilize the Balanced but Fragile Physiology</a> (2019)	Imperial College London, Montreal Heart Institute, University Hospital Münster	Canada, Germany, United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

#### Citing-text excerpts — how the field used this work

**METHODOLOGY** Atrial septal defects and pulmonary arterial hypertension

“There uses in patients with ES are supported by two RCTs (n=48), which demonstrated improvements in exercise capacity, functional class, invasive pulmonary artery pressures and echocardiographic parameters (58,59).”

## D. Citing-Institution Prestige & Geography

### Top citing institutions

Institution	Country	World ranking	Citing papers
Imperial College London	United Kingdom	SCImago #69 · THE 8 · QS 2	2
Janakpuri Superspeciality Hospital	India	—	2
Max Super Specialty Hospital	India	—	1
University Hospital Muenster	Germany	—	1
NorthShore University Health System	United States	—	1
University of North Carolina	United States	—	1
Baylor College of Medicine	United States	SCImago #560	1
Actelion Clinical Research Inc	United States	—	1

Institution	Country	World ranking	Citing papers
Ramathibodi Hospital, Mahidol University	Thailand	—	1
Ann & Robert Lurie Children's Hospital of Chicago	—	—	1
University of Colorado Health Sciences Center	United States	—	1
The Royal Brompton Hospital and National Heart & Lung Institute, Imperial College	United Kingdom	—	1
Centre Universitaire de Cardiologie et Chirurgie Cardiaque Pédiatrique, University of Geneva and Lausanne	Switzerland	—	1
Actelion Pharmaceuticals Italia	Italy	—	1
Actelion Pharmaceuticals	Switzerland	—	1

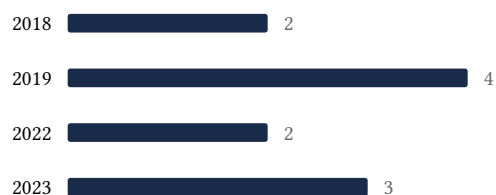
### Geographic distribution of citing authors

Country	Citing papers
United States	8
India	5
United Kingdom	3
Italy	2
Germany	2
Netherlands	1
Saudi Arabia	1
Switzerland	1
Thailand	1
Mexico	1
Canada	1
China	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

## E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



## F. AAO Precedent Considerations

---

### Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).
- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

#### Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

## G. Citation Evidence Index

---

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Long-term results after balloon pulmonary valvuloplasty in adults	5	8 CFR 204.5(i)(3) – Outstanding Researcher
Contribution 2	Phosphodiesterase-5 inhibitor in Eisenmenger syndrome: a preliminary observational study	0	8 CFR 204.5(i)(3) – Outstanding Researcher
Contribution 3	Clinical Efficacy of Phosphodiesterase-5 Inhibitor Tadalafil in Eisenmenger Syndrome—A Randomized, Placebo-Controlled, Double-Blind Crossover Study	6	8 CFR 204.5(i)(3) – Outstanding Researcher