Bibliometric Analysis of Research Relating to IgA Nephropathy from 2010 to 2021

Mengdan Xi
Xiangfu Gao

Corresponding Author: Xiangfu Gao, e-mail: gaoxf6016@126.com
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Background: IgA nephropathy (IgAN), characterized by the deposition of IgA, is one of the most common forms of primary glomerulonephritis. Although bibliometrics has been popular in the field of medicine, the bibliometric analysis of research related to IgAN has not been reported in the past 10 years. Therefore, the purpose of this study was to analyze the evolution trend and hotspots of IgAN over the last 10 years.

Material/Methods: The literature data related to IgAN between 2010 and 2021 were retrieved from the Web of Science Core Collection database, a high-quality digital database that has been broadly accepted among researchers and has become a common tool for retrieving and evaluating different types of publications. VOSviewer 1.6.18 was used to analyze co-authorship, co-occurrence, citation, and co-citation. CiteSpace 5.8.R3 was used to analyze burst keywords.

Results: According to the inclusion and exclusion criteria, 3664 papers were gathered. The country with the largest number of publications was China. Peking University was the most productive institution. The journal with the highest publications was Nephrology Dialysis Transplantation. The most prolific author was Zhang Hong. The highly cited references mainly investigated the pathology and pathogenesis of IgAN. The most frequent keywords were “IgA nephropathy”, “glomerulonephritis”, and “Oxford classification”.

Conclusions: Our study provided a comprehensive overview of IgAN research and showed the development status and scientific trend of IgAN through bibliometric analysis from 2010 to 2021. Our results will allow researchers to understand the existing research quickly and get direction for future research.

Keywords: Bibliometrics • Glomerulonephritis • Glomerulonephritis, IGA

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Background

IgA nephropathy (IgAN) is a common glomerulonephritis worldwide and is characterized by the deposition of IgA in the glomerular mesangium [1]. The highest incidence of IgAN is in young people, and one-third develop end-stage renal disease [2]. The prevalence of IgAN varies in different countries, being highest in Asian countries, followed by European countries and the United States [3]. IgAN has diverse clinical manifestations, including asymptomatic microscopic hematuria, macroscopic hematuria, proteinuria, hypertension, and renal damage. Among them, macroscopic hematuria is a typical clinical feature, usually complicated by upper respiratory tract infection or gastrointestinal tract infection [4,5]. Presently, there is no specific treatment for IgAN, and individual treatment should be given according to the patient’s condition. The overall treatment principle is to delay disease progression and renal function deterioration. The basic treatments for managing IgAN include reducing proteinuria, controlling hypertension, and using renin-angiotensin blockers [4]. Medicines such as corticosteroids, azathioprine, and cyclophosphamide are commonly used in the clinical setting. The efficacy of immunosuppressive therapy is still uncertain [6].

Bibliometric analysis is an overall analysis of the published literature in a specific research area over a specific time frame, which provides a timely and intuitive method to explore specific areas. Compared with traditional systematic evaluation, bibliometric analysis focuses on the institution, authorship, and social structure of the literature [7]. Many articles related to IgAN have been published in the last decade. So far, there is no bibliometric analysis on IgAN. Thus, in this study, we aimed to review the existing research and conduct systematic analysis to investigate the current situation and trend of IgAN through bibliometric analysis from 2010 to 2021.

Material and Methods

In 1969, Pritchard first proposed the concept of bibliometrics in his article “Statistical Bibliography or Bibliometrics?” [8]. Bibliometrics is an independent discipline that provides mathematical and statistical methods for analyzing and studying literature information quantitatively. Bibliometric analysis has been widely used in the field of medicine to analyze the dynamics and progress of disease.

For this bibliometric analysis, the literature data were obtained from the Web of Science Core Collection (WoSCC) database, mainly consisting of the Science Citation Index Expanded (SCI) and Social Sciences Citation Index (SSCI), which covers an extended range of publications in different fields and plays an important role in databases worldwide. Therefore, the WoSCC database was used to conduct the present bibliometric analysis on IgA nephropathy. By searching the term “IgA nephropathy” and other relevant expressions (eg, glomerulonephritis, IgA in terms of “topic” (including title, abstract, author keywords, and keywords plus), all articles related to IgA nephropathy appeared [9]. The time span was set from 2010 to 2021. The papers included in our research were peer reviewed. Documents defined as original articles and review articles were included, while other document types, such as guidelines, letters, and meeting abstracts, were excluded in this analysis. The language was limited to English. The data, such as titles, authors, keywords, abstracts, institutions, countries, languages, and cited references, were downloaded using the “export” function, and the “record content” was set to “full record and cited references”.

The filtered data from WoSCC were imported into VOSviewer 1.6.18 and CiteSpace5.8.R3 for bibliometric analysis. VOSviewer 1.6.18 is a software that is used to analyze cooperative relations and realize visualization. It displays a variety of visual maps, referred to as the label view, density view, cluster density view, and scatter view [10]. In the knowledge maps generated using VOSviewer 1.6.18, items are represented as nodes and links. The node size represents the weight of analysis items, the links between the nodes reflect the relationship between the items, and the colors of nodes represent clustering. Usually, items that are in the same cluster show a stronger collaborative relationship [11]. CiteSpace 5.8.R3 is another application for analyzing and visualizing co-citation networks. It was used to plot the map of strongest citation burst keywords in this research. An algorithm called burst-detection can be adapted for detecting sharp increases of interest in a specialty. Through Citespaces.8.R3, a current research front is identified based on such burst terms extracted from titles, abstracts, descriptors, and identifiers of bibliographic records [12].

Results

Annual Trends of Publications

As shown in Figure 1, a total of 4852 papers relating to IgA nephropathy were published from 2010 to 2021. According to the inclusion and exclusion criteria, we obtained 3664 papers (3111 articles and 553 reviews), which were written by 15 651 authors from 3304 organizations in 78 countries, published in 714 journals, and cited 12 604 times by 6964 journals.

Figure 2 shows the temporal distribution of papers published. The number of papers published generally increased, especially after 2019, and reached a peak in 2021. It can be seen that an increasing number of scholars paid attention to IgA nephropathy in recent years.
To understand which countries made significant contributions to the research of IgAN, the study analyzed the number of publications from 78 countries. The top 10 countries of publications are presented in Table 1. The country with the largest number of publications was China, but the average number of citations was very low in China. The next largest contributor was Japan. The United States was ranked in the third position, followed by Italy and England. Additionally, the Netherlands, Germany, and France were 3 countries with the highest average number of citations, showing the excellent scientific research level of European countries. The goal of co-authorship is to provide appropriate methods for analyzing the impact and quality of research. As shown in Figure 3, countries such as the United States, China, Japan, Italy, and Canada were at the center, showing close cooperation in the study of IgAN.

Analysis of Institutions

A total of 3304 institutions contributed to the articles published on IgAN. Table 2 shows the top 10 institutions in terms of the number of publications. From the table, we can see 6 institutions originated from China, 2 from Japan, and 2 from the United States. It was speculated that many institutions were studying IgAN in China. Peking University remained the most prolific, followed by Juntendo University and Sun

Table 1. The top 10 countries in terms of the number of publications (n≥92) in IgA nephropathy.

| Rank | Country     | Publications | Citations | Average citations |
|------|-------------|--------------|-----------|-------------------|
| 1    | China       | 1310         | 19236     | 14.68             |
| 2    | Japan       | 635          | 15101     | 23.78             |
| 3    | United States| 608          | 24319     | 40.00             |
| 4    | Italy       | 244          | 12098     | 49.58             |
| 5    | England     | 213          | 10547     | 49.52             |
| 6    | South Korea | 179          | 2559      | 14.30             |
| 7    | Germany     | 150          | 9008      | 60.05             |
| 8    | France      | 147          | 9106      | 61.95             |
| 9    | Canada      | 120          | 6379      | 53.16             |
| 10   | Netherlands | 92           | 7673      | 83.40             |
Table 2. The top 10 institutions in terms of the number of publications (n≥56) in IgA nephropathy.

| Rank | Institution                      | Country  | Publications | Citations | Average citations |
|------|----------------------------------|----------|--------------|-----------|-------------------|
| 1    | Peking University                | China    | 142          | 4221      | 29.73             |
| 2    | Juntendo University              | Japan    | 108          | 3048      | 28.22             |
| 3    | Sun Yat-sen University           | China    | 94           | 1054      | 11.21             |
| 4    | The University of Alabama at Birmingham | USA  | 84           | 4686      | 55.79             |
| 5    | Shanghai Jiaotong University     | China    | 78           | 1854      | 23.77             |
| 6    | Ministry Health China            | China    | 65           | 1238      | 19.05             |
| 7    | Tokyo Women Medical University   | Japan    | 61           | 867       | 14.21             |
| 8    | Nanjing University               | China    | 60           | 1929      | 32.15             |
| 9    | Columbia University              | USA      | 59           | 4201      | 71.20             |
| 10   | Sichuan University               | China    | 56           | 540       | 9.64              |
Yat-sen University. The University of Alabama at Birmingham and Columbia University were the top 2 institutions with the highest average number of citations related to publications, which suggested the high academic influence.

As seen in Figure 4, the institution co-authorship network map was constructed. We found different clusters relatively independent, but institutions from the same country had closer cooperation with each other because of geographical advantages. Obviously, institutions including Peking University, Juntendo University, and the University of Alabama at Birmingham were critical nodes in the collaboration network.

Analysis of Journals and Cited Journals

In total, 3664 articles were published in 714 different journals. The top 10 journals that published the most IgAN articles are listed in Table 3. Most of the journals belong to the subject category of urology and nephrology. Each journal published more than 70 articles. *Nephrology Dialysis Transplantation* was the most productive journal in this field, followed by *BMC Nephrology* and *Clinical and Experimental Nephrology*. The impact factor is an internationally accepted evaluation index for journals. Among the top 10 journals identified, *Kidney International* and *Journal of the American Society of Nephrology*, with the highest impact factors (10.612 and 10.121, respectively) were the top 2 journals in terms of the highest number of citations, and they were also the top 2 journals with the highest average number of citations. The average impact factor was 4.84.

Table 4 shows the top 10 cited journals in terms of the number of citations (n≥2095) relating to IgAN. The journal with the largest number of citations was *Kidney International*, followed by the *Journal of the American Society of Nephrology*. The average impact factor was high (15.78) because *The New England Journal of Medicine* was the top journal, with an impact factor of 91.245. The above results indicated that these 2 journals...
published high quality articles and had received much attention in the field of nephrology. Meanwhile, the overlay maps of journals and cited journals are displayed in Figure 5A and 5B. There was a lot of overlap between the journals and cited journals, showing most publications and citations were confined to these journals that mainly published articles related to nephrology.

### Analysis of Authors and Cited Authors

A total of 3664 articles were published by 15 651 authors, with an average of 4 authors per article. The top 10 authors (4 from Japan, 3 from China, 2 from USA, 1 from Italy, 1 from England) with the highest number of publications in IgAN research are shown in Table 5. Zhang Hong was the most productive author, with 103 articles, followed by Jan Novak (73 articles) and Yasuhiko Tomino (57 articles). Among the authors, Bruce A. Julian had the highest average citation counts (65.30). The next highest was Jan Novak (49.86), followed by Rosanna Coppo (43.77). The network in different colors indicated different cooperative clusters. There are more than 20 clusters shown in Figure 6A. Zhang Hong, Jan Novak, and Tetsuya Kawamura were more strongly associated with other authors. As shown in Table 6, Rosanna Coppo ranked the first in cited author frequency, followed by Hitoshi Suzuki and Daniel C. Cattran. Five of the top 10 cited authors were from the United States, indicating that the United States occupied an important position in the study of IgAN. The network of cited authors is shown in Figure 6B. Authors in the same cluster often studied in similar fields and collaborated with each other. There were 5 clusters...
Figure 5. (A) The overlay map of journals related to IgA nephropathy research. (B) The overlay map of cited journals related to IgA nephropathy research.
Table 5. The top 10 authors with the highest number of publications (n≥1378) in IgA nephropathy research.

| Rank | Author          | Country | Publications | Citations | Average citations |
|------|----------------|---------|--------------|-----------|------------------|
| 1    | Zhang, Hong    | China   | 103          | 2699      | 26.20            |
| 2    | Novak, Jan     | USA     | 73           | 3640      | 49.86            |
| 3    | Tomino, Yasuhiko | Japan   | 57           | 1658      | 29.09            |
| 4    | Suzuki, Hitoshi | Japan   | 55           | 2165      | 39.36            |
| 5    | Suzuki, Yusuke | Japan   | 54           | 1250      | 23.15            |
| 6    | Julian, Bruce A. | USA   | 50           | 3265      | 65.30            |
| 7    | Liu, Hong      | China   | 45           | 588       | 13.07            |
| 8    | Nitta, Kosaku  | Japan   | 44           | 529       | 12.02            |
| 9    | Coppo, Rosanna | Italy   | 43           | 1882      | 43.77            |
| 10   | Barratt, Jonathan | England | 40       | 1378      | 34.45            |
in different colors: Rosanna Coppo showed the greatest link strength in the red cluster; Krzysztof Kiryluk showed the greatest link strength in the green cluster; Hitoshi Suzuki showed the greatest link strength in the blue cluster; Mark Haas showed the greatest link strength in the yellow cluster; and J. Charles Jennette showed the greatest link strength in the purple cluster.

Analysis of Cited References

As shown in Table 7, the top 10 cited references in IgAN research were published between 1987 and 2017. It was found that 9 cited references were published before 2011, indicating that scholars preferred to cite classic articles. The most cited
### Table 7. The top 10 cited references with the highest number of citations (n≥305) in IgA nephropathy research.

| Rank | Cited references                                                                 | Author                  | Year | Citations |
|------|----------------------------------------------------------------------------------|-------------------------|------|-----------|
| 1    | “The Oxford classification of IgA nephropathy: Rationale, clinicopathological correlations, and classification” | Cattran, Daniel C.      | 2009 | 587       |
| 2    | “The commonest glomerulonephritis in the world – IgA nephropathy”               | Damico, Giuseppina      | 1987 | 277       |
| 3    | “IgA nephropathy”                                                                | Donadio, James, V       | 2002 | 321       |
| 4    | “Genome-wide association study identifies susceptibility loci for IgA nephropathy” | Gharavi, Ali G.         | 2011 | 251       |
| 5    | “A new equation to estimate glomerular filtration rate”                         | Levey, Andrew S.        | 2009 | 238       |
| 6    | Remission of proteinuria improves prognosis in IgA nephropathy                   | Reich, Heather N.       | 2007 | 274       |
| 7    | “The Oxford classification of IgA nephropathy: Pathology definitions, correlations, and reproducibility” | Roberts, Ian S. D.      | 2009 | 452       |
| 8    | “Aberrantly glycosylated IgA1 in IgA nephropathy patients is recognized by IgG antibodies with restricted heterogeneity” | Suzuki, Hitoshi         | 2009 | 236       |
| 9    | “The pathophysiology of IgA nephropathy”                                         | Suzuki, Hitoshi         | 2011 | 302       |
| 10   | “Oxford classification of IgA nephropathy 2016: An update from the IgA Nephropathy Classification Working Group” | Trimarchi, Hernan       | 2017 | 305       |

**Figure 7.** The co-citation network of cited references.
Table 8. The top 10 keywords with the highest frequency (n≥1062) in IgA nephropathy research.

| Rank | Keyword                                | Frequency | Total link strength |
|------|----------------------------------------|-----------|--------------------|
| 1    | IgA Nephropathy                        | 2315      | 5735               |
| 2    | Glomerulonephritis                     | 766       | 2277               |
| 3    | Oxford Classification                  | 507       | 1861               |
| 4    | Disease                                | 477       | 1522               |
| 5    | Nephropathy                            | 434       | 1224               |
| 6    | Progression                            | 430       | 1574               |
| 7    | Proteinuria                            | 416       | 1473               |
| 8    | Expression                             | 388       | 1056               |
| 9    | Chronic Kidney Disease                 | 347       | 1048               |
| 10   | Children                               | 313       | 1062               |
Figure 8. (A) Map of keyword density. (B) The co-occurrence network of keywords of IgA nephropathy.

**Table 1:**

| Keywords                     | Year | Strength | Begin | End | 2010-2021 |
|------------------------------|------|----------|-------|-----|------------|
| Immune complex               | 2010 | 8.12     | 2010  | 2012|            |
| Gene polymorphism            | 2010 | 7.38     | 2014  | 2015|            |
| Metaanalysis                  | 2010 | 6.62     | 2014  | 2018|            |
| Susceptibility loci          | 2010 | 7.97     | 2016  | 2017|            |
| Randomized controlled trial  | 2010 | 6.98     | 2016  | 2018|            |
| Outcome                      | 2010 | 10.45    | 2018  | 2021|            |
| Oxford classification        | 2010 | 9.06     | 2019  | 2021|            |
| Galactose-deficient iga1     | 2010 | 8.2      | 2019  | 2021|            |
| Iga vasculiti                | 2010 | 7.38     | 2019  | 2021|            |
| Insight                      | 2010 | 7.01     | 2019  | 2021|            |

Figure 9. The top 10 keywords with the strongest citation bursts.
The co-citation network of cited references is presented in Figure 7. The article “IgA nephropathy” published by Robert J. Wyatt et al [13] was considered the critical position of the network and the key node of the red cluster. The article “The commonest glomerulonephritis in the world—IgA nephropathy”, published by Giuseppina Damico et al [14], was recognized as the pivotal node of the blue cluster. The article “The Oxford classification of IgA nephropathy: rationale, clinicopathological correlations, and classification”, published by Daniel C. Catran et al [15], was considered the critical node of the green cluster. The article “Aberrant glycosylation of IgA1 is inherited in both pediatric IgA nephropathy and Henoch-Schönlein purpura nephritis”, published by Krzysztof Kiryłuk et al [16], was recognized as the key node of the yellow cluster. The first 2 articles were comprehensive overviews related to IgAN [13,14], while the latter 2 were studies of the pathogenesis and pathology of IgAN [15,16].

Analysis of Keywords

The top 10 keywords with the highest frequency in IgAN research are shown in Table 8. The most frequent keywords were “IgA nephropathy”, “glomerulonephritis”, and “Oxford classification”.

The map of keyword density showed the focus of the research visually. As shown in Figure 8A, high-frequency keywords, such as IgA nephropathy, Oxford classification, glomerulonephritis, expression, progression, and proteinuria, constituted the representative terms in this field.

The analysis of keyword co-occurrence was helpful to grasp the research hotspots of IgAN. Based on the network, the keywords with similarities were clustered. As shown in Figure 8B, the keywords were divided into 4 clusters in different colors. Figure 9 shows the temporal trend of research hotspots from 2010 to 2021. The green line represents the timeline, and the red line represents the time period of burst. From 2010 to 2012, the research hotspot of IgAN was immune complex. The burst keywords from 2014 to 2018 were gene polymorphism, meta-analysis, susceptibility loci, and randomized controlled trial. From 2018 to 2021, outcome, Oxford classification, galactose-deficient IgA1, IgA vasculitis, and insight were the research hotspots related to IgAN. Obviously, research on the pathogenesis and pathology of IgAN continued to deepen.

Discussion

Publication Trends in IgAN Research

A total of 3664 papers on IgAN were screened from 2010 to 2021, and the number of papers steadily increased during those 10 years. The top 2 countries with the largest number of publications were China and Japan, and that may be because the prevalence of IgAN in Asian countries was significantly higher than that in Europe and North America [4]. Interestingly, China had less academic influence, according to the low average number of citations. The visual analysis showed that the United States, China, Japan, Italy, and Canada were at the center of worldwide IgAN research. In terms of institutional contributions, the institution with the highest number of publications was Peking University (China). Columbia University (USA) ranked the first in the average number of citations, showing the United States has led the research on IgAN. For institutions, collaborations were mostly among domestic organizations. Researchers should collaborate with more countries and institutions to motivate high-quality research.

Jan Novak, a renowned scholar on IgAN from the University of Alabama Birmingham, was one of the most productive authors and had the highest average citation counts, indicating his important role in IgAN research. One of his articles pointed out that IgAN is an autoimmune disease with multiple pathogenesis. Galactose-deficient IgA1 (Gd-IgA1) is the immunoglobulin synthesized from IgA1 and O-glycans deficient in galactose. Gd-IgA1 is recognized by circulating anti-glycan autoantibodies and forms pathogenic IgA1-containing circulating immune complexes, which causes kidney damage by eventually depositing in the glomeruli [17]. Rosanna Coppo had the highest number of citations related to IgAN research from Italy. An analysis of the articles published by Coppo revealed that she focused on various aspects of the etiology, pathogenesis, pathology, treatment, and prognosis of IgAN. What’s more, she pointed out there are few guidelines for the treatment of children with IgAN and called for more attention to be paid in this field [18].

The article “The Oxford classification of IgA nephropathy: rationale, clinicopathological correlations, and classification”, published by Daniel C. Catran et al, was the most cited reference. Experts proposed a new classification of IgAN aimed at predicting the prognosis of IgAN based on pathological features [15]. Two highly cited references were written by Hitoshi Suzuki, showing his academic viewpoints were recognized by many scholars and experts. The analysis of cited references indicated that scholars focused on exploring the pathology and pathogenesis of IgAN.
Keywords refine the focus of the literature content, and the degree of attention of the research topic can be reflected by the frequency of keywords. “Oxford classification” was one of the most meaningful keywords, with high frequency. A working group of nephrologists and renal pathologists established a consensual classification for IgAN named “Oxford Classification in 2009”. The group recommended that 4 pathological features should be listed and scored (the MSTE score) in the biopsy report, including mesangial hypercellularity (M), segmental glomerulosclerosis (S), tubular atrophy/interstitial fibrosis (T), and endocapillary hypercellularity (E) [15]. Upon further studies, a revised classification was proposed by this working group in 2016. According to the studies, crescents were found to be one of the reproducible variables to predict renal outcomes. The working group suggested adding the crescent scores (C) to the MEST scores to form the new MEST-C scores [19]. In recent years, this classification has been used widely and has had significant importance in clinical practice.

The analysis of keyword co-occurrence is a common bibliometric analysis method. The keywords in the same cluster show greater correlation. Combining the present situation and the characteristics of IgAN, the 4 clusters are described as follows [9]:

In the red cluster, the keywords were mainly related to the pathogenesis of IgAN, including activation, complement, biomarkers, injury, and inflammation. In recent years, increasing evidence has shown that complement activation plays a key role in the pathogenesis and progression of IgAN [20]. This process in IgAN is mediated through complement system activation of the lectin pathway and alternative pathway rather than the classical pathway. Activation of these 2 pathways is more pronounced for polymeric IgA, leading to an inflammatory environment and development of glomerular injury [21,22]. Furthermore, complement has been proposed as a biomarker for the diagnosis and prognosis in IgAN. Along with the further study of complement activation in IgAN, new treatments, such as complement inhibitors, have emerged. Although the application of complement inhibitors is rare now, the future prospect is broad.

In the green cluster, the main keywords were Oxford classification, natural-history, progression, prognosis, therapy, and tonsillectomy. Interestingly, tonsillectomy as a specific treatment appearing in this cluster has widespread concern. Hematuria/proteinuria is often observed in patients with IgAN clinically. Discovering the close relationship between tonsillitis and hematuria/proteinuria, researchers focus on researching the involvement of tonsils in the pathogenesis of IgAN and exploring the feasibility of tonsillectomy [23]. Tonsillectomy has been suggested as a possible treatment for IgAN, especially in Japan. However, many Western nephrologists are reluctant to choose tonsillectomy because it is an invasive operation with risks and its exact efficacy has not been confirmed [24,25].

In the blue cluster, the keywords were centered around glomerulonephritis as follows: renal biopsy, classification, membranous nephropathy, focal segmental glomerulosclerosis, lupus nephritis, and nephrotic syndrome. Glomerulonephritis is a group of kidney diseases and can be classified into 2 categories: the first is limited to the kidney and is called primary glomerulonephritis, such as nephrotic syndrome; the second is secondary to systemic diseases and is called secondary glomerulonephritis, such as lupus nephritis. In most cases, a kidney biopsy is necessary to confirm the diagnosis of glomerulonephritis. The most common types of glomerulonephritis are IgA nephropathy, membranous nephropathy, minimal change disease, focal segmental glomerulosclerosis, and membranoproliferative glomerulonephritis [26].

In the yellow cluster, the major keywords were adults, children, galactose-deficient IgA1 (Gd-IgA1), and Henoch-Schonlein purpura. Henoch-Schonlein purpura has been renamed IgA vasculitis (IgAV), which is the most common vasculitis disease in children. Approximately 40% of children with IgAV develop nephritis (IgAV-N) [27]. Like IgAN, Gd-IgA1 is important in the pathogenesis of IgAV-N. Glomerular Gd-IgA1 deposition occurs only in patients with IgAN and IgAV [28].

Limitations

This study had some limitations. First, the data in the literature were obtained only from the WoSCC database in SSCI and SCIE indexes, leading to the problem of incomprehensive data, although WoSCC is known as the most reliable database. In addition, the language was limited to English. However, we believe these limitations did not affect the overall results of this study.

Conclusions

In this study, bibliometrics was used to systematically analyze the articles related to IgAN for the first time, in order to provide inspiration for further studies. Global research on IgAN has increased rapidly in recent years. China, Japan, and the United States have been the prominent countries in this research. Many institutions were from China. The University of Alabama at Birmingham and Columbia University were influential institutions from the United States. Nephrology Dialysis Transplantation was the most productive journal in this field. Jan Novak, Bruce A. Julian, Rosanna Coppo, and other authors have made great contributions to IgAN research. The most cited reference was published by Daniel C. Catran et al. Oxford classification, Gd-IgA1, and IgA vasculitis were popular...
topics in the study of IgAN. We hope that this study will provide direction for future research.

Department and Institution Where Work Was Performed
First Clinical Medical College of Zhejiang Chinese Medical University, Hangzhou, Zhejiang, PR China.

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