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Original Article

Efficacy and safety of paclitaxel combined with oxaliplatin in the treatment of advanced primary hepatocellular carcinoma

Qian Chen[1*], Guangyi Gao[2*], Ying Yuan[3], Yan Zong[1], Xiaofeng Zhao[1], Hai Guo[1]

[1]Department of Traditional Chinese Medicine, The Affiliated Huai'an No. 1 People's Hospital of Nanjing Medical University, Huai'an 223300, Jiangsu, China; [2]Department of Oncology, The Affiliated Huai'an Hospital of Xuzhou Medical University and The Second People's Hospital of Huai'an, Huai'an 223300, Jiangsu, China; [3]Department of Oncology, The Affiliated Huai'an No. 1 People's Hospital of Nanjing Medical University, Huai'an 223300, Jiangsu, China. [*]Equal contributors.

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Abstract: Primary liver cancer (PLC) often presents with subtle early symptoms, leading to most diagnoses at advanced stages, which negatively impacts treatment outcomes. This study evaluated the efficacy and safety of albumin-bound paclitaxel (nab-PTX) combined with Oxaliplatin (OXA) in the treatment of advanced PLC patients without surgical indications. A total of 126 patients with advanced PLC were divided into two treatment groups: the nab-PTX/OXA group (n=66) and the sorafenib (Sor)/OXA group (n=60), with a treatment cycle of 21 days. Clinical response rates, sleep quality (SQ), quality of life (QoL), prognosis, and adverse reactions were compared between the two groups. The results indicated that, after treatment, the nab-PTX/OXA group demonstrated significantly higher objective response rate, sleep quality (PSQI score), and QoL (SF-36 score) compared to the Sor/OXA group (all $P<0.05$). Both groups demonstrated significant increases in Cluster of Differentiation 3-positive (CD3+) and CD4+ cell levels at Day 21 compared to Day 0 ($P<0.05$), with a greater increase observed in the nab-PTX/OXA group ($P<0.05$). Conversely, CD8+ cell levels were significantly decreased at Day 21 compared to Day 0 in both groups ($P<0.05$), with a more pronounced decrease in the nab-PTX/OXA group ($P<0.05$). Additionally, the CD4+/CD8+ ratio was significantly elevated at Day 21 compared to Day 0 in both groups ($P<0.05$), with a greater increase observed in the Sor/OXA group ($P<0.05$). Furthermore, the overall survival (OS) and progression-free survival (PFS) in the nab-PTX/OXA group were significantly longer than those in the Sor/OXA group ($P<0.05$). In the nab-PTX/OXA group, the incidence of abdominal pain and diarrhea, grade III-IV leukopenia, thrombocytopenia, and liver and kidney dysfunction was significantly lower than that in the Sor/OXA group ($P<0.05$). In short, PTX combined with OXA demonstrated favorable efficacy in treating advanced PLC. This regimen not only improved SQ and QoL but also prolonged survival.

Keywords: Primary liver cancer, albumin-bound paclitaxel, oxaliplatin, sorafenib

Introduction

Primary liver cancer (PLC) is a relatively common malignant tumor, with an unclear pathogenesis. It is associated with risk factors such as viral hepatitis, liver cirrhosis, and chemical carcinogens [1, 2]. Due to the subtle nature of clinical symptoms, most patients are diagnosed at advanced stages [3]. For patients with advanced liver cancer (LC), only palliative treatment options are available, and the prognosis is generally poor [4].

Paclitaxel (PTX) is a broad-spectrum antitumor agent with proven therapeutic effects against various malignant tumors. However, its poor solubility in water results in significant side effects and limited clinical application [5].

Albumin-bound PTX (nab-PTX) effectively reduces the cytotoxicity associated with conventional PTX while enhancing drug concentration within tumors, thus exhibiting superior antitumor activity [6]. Klein-Brill et al. demonstrated that nab-PTX plus gemcitabine greatly pro-

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longed the median survival of cancer patients [7]. Nakashima et al. reported that nab-PTX, as a second-line treatment after immune checkpoint inhibitor failure, improved disease control rate and prolonged the median progression-free survival [8]. Mu et al. found that, relative to conventional chemotherapy, nab-PTX plus Programmed Death 1 (PD-1)/Programmed Death Ligand 1 (PD-L1) inhibitors markedly improved survival rates in patients with refractory recurrent small cell lung cancer [9]. While nab-PTX exhibits antitumor activity against various cancers, its efficacy in LC remains to be established. Oxaliplatin (OXA), a platinum-based chemotherapeutic agent, was initially utilized to treat colorectal cancer and has recently been explored for advanced PLC therapy [10]. In PLC patients, OXA is typically combined with other drugs to enhance efficacy and minimize side effects. For instance, the Folinic Acid, Fluorouracil, and Oxaliplatin (FOLFOX) regimen has shown efficacy in advanced hepatocellular carcinoma (HCC), significantly inhibiting tumor growth and improving patient quality of life (QoL). The potential of nab-PTX combined with OXA as a first-line treatment for advanced PLC, to enhance clinical efficacy and safety, remains to be further investigated.

This study compared the treatment efficacy and safety of nab-PTX + OXA regimen versus sorafenib (Sor) + OXA regimen as first-line therapies for advanced PLC, aiming to provide new therapeutic options to improve clinical efficacy and extend survival in patients with advanced PLC.

Methods

Case selection

This retrospective study involved a total of 126 patients with advanced PLC who received first-line treatment at The Affiliated Huai'an No. 1 People's Hospital of Nanjing Medical University from June 2021 to June 2022 were recruited.

Inclusion criteria: 1) Diagnosis of advanced PLC based on the Barcelona Clinic Liver Cancer (BCLC) staging system [11], confirmed by clinical and pathological examination; 2) No prior chemotherapy or radiotherapy; 3) At least one measurable lesion as per the *Response Evaluation Criteria in Solid Tumors (RECIST) 1.1* [12]; 4) Eastern Cooperative Oncology Group performance status ≤3 [13]; 5) Expected survival of ≥3 months; 6) Normal blood counts, coagulation, liver, and kidney functions, with no contraindications to chemotherapy.

Exclusion criteria: 1) Comorbidities such as cardiovascular, cerebrovascular, bone marrow dysfunction, or endocrine diseases; 2) Allergy to the study drugs; 3) Previous liver surgery; 4) Psychiatric disorders, cognitive impairments, or poor compliance; 5) Inability to assess treatment efficacy; 6) Changes in chemotherapy regimen during the study; 7) Incomplete medical records.

This study was approved by the Ethics Committee of The Affiliated Huai'an No. 1 People's Hospital of Nanjing Medical University. The research process is shown in **Figure 1**.

Intervention methods

According to the treatment protocol, 126 patients with advanced PLC were categorized into two groups: the albumin-bound PTX combined with OXA group (nab-PTX/OXA), consisting of 66 patients, and the sorafenib (Sor) combined with OXA group (Sor/OXA), consisting of 60 patients.

Patients in the nab-PTX/OXA group received albumin-bound PTX (Shijiazhuang Pharmaceutical Group, China) at a dose of 120 mg/m^2 via intravenous infusion on days 1 and 8, in addition to OXA (Jiangsu Hengrui Medicine Co., China) at 85 mg/m^2 administered over 2 hours on days 7 and 21. In contrast, patients in the Sor/OXA group received Sor (Bayer AG, Germany) at 400 mg per dose, twice daily from days 1 to 21, along with OXA at 85 mg/m^2, administered over 2 hours on days 7 and 21.

Both groups underwent treatment cycles of 21 days, with routine monitoring of blood counts, coagulation function, and liver and kidney functions required for each cycle.

Data collection and outcome measurement

Primary indicators

Efficacy assessment: Treatment efficacy was evaluated regarding RECIST 1.1 criteria. Complete response (CR): Disappearance of all target lesions and no appearance of new lesions, maintained for at least four weeks; Partial

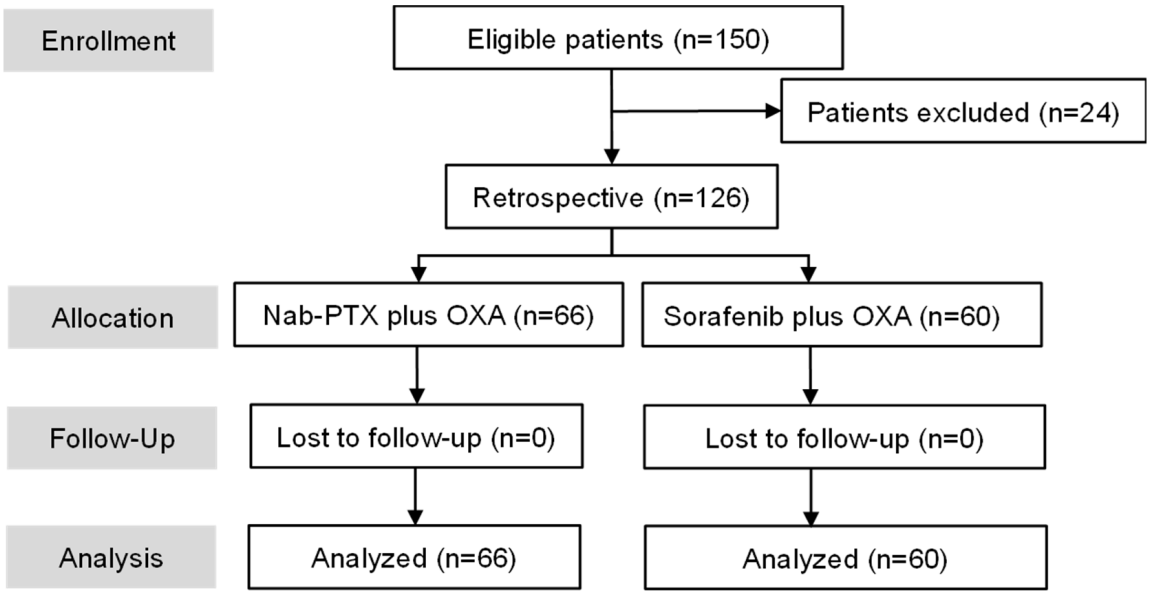

Figure 1. Research scheme. Nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin.

response (PR): A reduction in the maximum diameter of target lesions by ≥30% from baseline, maintained for at least 4 weeks; Stable disease (SD): A reduction in the maximum diameter of target lesions by <30% from baseline; Progressive disease (PD): An increase in the maximum diameter of target lesions from baseline or the appearance of new lesions.

Objective response rate (ORR) = (CR + PR)/total number of patients × 100%.

Disease control rate (DCR) = (CR + PR + SD)/total number of patients × 100%.

Serum tumor markers: Peripheral blood (5 mL) was collected from the patients' elbow veins before and after chemotherapy. Serum levels of alpha-fetoprotein (AFP), carcinoembryonic antigen (CEA), carbohydrate antigen-199 (CA-199), tissue polypeptide antigen (TPA), and vascular endothelial growth factor (VEGF) were measured using enzyme-linked immunosorbent assay (ELISA). All reagent kits were provided by Shanghai Sangon Bioengineering Co., Ltd., and the experimental procedures were performed in strict accordance with the kit instructions.

T lymphocyte subpopulation: Peripheral blood (5 mL) was collected from the patients' elbow veins before and after chemotherapy. Serum levels of T lymphocyte subpopulations Cluster of Differentiation 3-positive (CD3+), CD4+, and CD8+ cells were measured using ELISA, and the CD4+/CD8+ ratio was calculated. All reagents were provided by Shanghai Sangon Bioengineering Co., Ltd., and experimental procedures were conducted strictly according to the kit instructions.

Secondary indicators

Sleep quality (SQ): Patient SQ was assessed using Pittsburgh SQ Index (PSQI) [14], comprising 18 items covering aspects such as sleep quality, sleep duration, sleep efficiency, use of sleep medication, sleep disturbances, and daytime dysfunction. Total PSQI score ranges from 0 to 21, with higher scores implying poorer sleep quality.

Quality of life (QoL): Patient QoL was assessed using Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) [15]. The scale includes dimensions of physical functioning, emotional functioning, role functioning, and general health perceptions. The total score ranges from 0 to 100, with higher scores implying better QoL.

Follow-up: After the completion of treatment, all study participants were followed up for 2 years. Follow-up methods included telephone, WeChat, QQ, or outpatient clinic visits, up to

Table 1. Patient baseline data (*n*)

Data	nab-PTX/ OXA group	Sor/OXA group	χ^2	*P*
n	66	60		
Age (years old)			0.257	0.612
≤60	48	46		
>60	18	14		
Sex			0.014	0.905
Male	50	46		
Female	16	14		
History of hepatitis			0.916	0.338
Yes	48	48		
No	18	12		
History of liver cirrhosis			0.019	0.892
Yes	36	32		
No	30	28		
Tumor diameter (cm)			0.099	0.753
≤5	26	22		
>5	40	38		
Child-Pugh grade			0.916	0.338
A	48	48		
B	18	12		
ECOG score			0.745	0.689
0	32	28		
1	20	22		
2	14	10		
Clinical stages			0.085	0.771
III	10	8		
IV	56	52		

Note: nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib; ECOG: Eastern Cooperative Oncology Group.

June 2024 or until patient death. Overall survival (OS) and progression-free survival (PFS) were monitored for all participants. OS is the time from the start of treatment to either the patient's death from any cause or the last follow-up. PFS is the time from treatment initiation to the patient's death specifically due to tumor progression.

Adverse reactions (ARs): ARs during treatment were graded according to the *National Cancer Institute Common Toxicity Criteria (NCI CTC) version 3.0* [16]. The grades are as follows: 0 (none), I (mild), II (moderate), III (severe), or IV (life-threatening).

Statistical methods

Statistical analysis was performed using the Statistical Package for the Social Sciences (*SPSS) 23.0*. Categorical data were denoted as *n* (%) and were compared using the χ^2 test. Quantitative data with normal distribution were presented as ($\bar{x}\pm s$) and compared using the t-test. OS or PFS was evaluated using Kaplan-Meier survival curves, and inter-group comparisons were conducted using Log-Rank test. $P<0.05$ was considered statistically significant.

Results

Comparison of baseline data between the two groups

The baseline characteristics between nab-PTX/OXA group and Sor/OXA group were compared (**Table 1**). Neglectable differences existed in age, gender, history of hepatitis, history of liver cirrhosis, average tumor diameter, Child-Pugh classification, Eastern Cooperative Oncology Group (ECOG) performance status score, or clinical staging between groups ($P>0.05$).

Comparison of clinical efficacy between the two groups

Table 2 presents the clinical efficacy comparison between the nab-PTX/OXA group and the Sor/OXA group. In the nab-PTX/OXA group, the CR rate was 6.06% (4/66), the PR rate was 48.48% (32/66), the SD rate was 33.33% (22/66), and the PD rate was 12.12% (8/66), achieving an ORR of 54.55% (36/66) and a DCR of 87.88% (58/66). In the Sor/OXA group, the CR rate was 0.00% (0/60), the PR rate was 33.33% (20/60), the SD rate was 43.33% (26/60), and the PD rate was 23.33% (14/60), yielding an ORR of 33.33% (20/60) and a DCR of 76.67% (46/60). The ORR in the nab-PTX/OXA group were significantly higher than those in the Sor/OXA group (both $P<0.05$).

Comparison of serum tumor marker levels between the two groups

The differences in serum levels of tumor markers (AFP, CEA, CA-199, TPA, and VEGF) between

Table 2. Clinical efficacy analysis (*n* (%))

Data	nab-PTX/ OXA group	Sor/OXA group	χ^2	*P*
n	66	60		
CR	4 (6.06)	0 (0.00)	3.756	0.053
PR	32 (48.48)	20 (33.33)	2.977	0.084
SD	22 (33.33)	26 (43.33)	1.333	0.248
PD	8 (12.12)	14 (23.33)	2.741	0.098
ORR	36 (54.55)	20 (33.33)	5.727	0.017
DCR	58 (87.88)	46 (76.67)	1.557	0.212

Note: nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib; CR: Complete response; PR: Partial response; SD: Stable disease; PD: Progressive disease; ORR: Objective response rate; DCR: Disease control rate.

the nab-PTX/OXA and Sor/OXA groups, before and after treatment, are shown in **Figure 2**. Compared to baseline (Day 0), the levels of AFP, CEA, CA-199, TPA, and VEGF were significantly reduced at Day 21 in both groups ($P<0.05$), with a greater reduction observed in the nab-PTX/OXA group ($P<0.05$).

Comparison of serum T lymphocyte subsets levels between the two groups

The changes in T lymphocyte subpopulations (CD3+, CD4+, CD8+) and the CD4+/CD8+ ratio between the nab-PTX/OXA and Sor/OXA treatment groups before and after treatment are illustrated in **Figures 3** and **4**. Compared to Day 0, the levels of CD3+ and CD4+ T lymphocytes were significantly increased at Day 21 in both groups ($P<0.05$), with greater increases observed in the nab-PTX/OXA group ($P<0.05$). Conversely, the levels of CD8+ T lymphocytes were significantly decreased at Day 21 compared to Day 0 in both groups ($P<0.05$), with a more pronounced decrease in the nab-PTX/OXA group ($P<0.05$). Additionally, the CD4+/CD8+ ratio was significantly elevated at Day 21 compared to Day 0 in both groups ($P<0.05$), with a greater increase observed in the Sor/OXA group ($P<0.05$).

Comparison of SQ and QoL between the two groups

The differences in SQ, as measured by the PSQI, and QoL, as assessed by the SF-36 scale, between the nab-PTX/OXA and Sor/OXA groups were compared (**Figure 5**). Compared to Day 0, the PSQI scores at Day 21 were significantly reduced in both groups ($P<0.05$), with a greater reduction observed in the nab-PTX/OXA group ($P<0.05$). Conversely, the SF-36 scores at Day 21 were significantly increased in both groups ($P<0.05$), with a greater improvement seen in the nab-PTX/OXA group ($P<0.05$).

Comparison of prognosis between the two groups

The differences in OS and PFS between the nab-PTX/OXA and Sor/OXA groups were compared (**Figure 6**). Nab-PTX/OXA group had a mean OS of 19.51 ± 2.04 months and a mean PFS of 12.08 ± 1.15 months. In contrast, Sor/OXA group had a mean OS of 14.20 ± 2.32 months and a mean PFS of 9.32 ± 0.84 months. Compared to the Sor/OXA group, patients in the nab-PTX/OXA group had significantly longer OS and PFS (both $P<0.05$).

Comparison of Ars between the two groups

The differences in the grading of ARs between the nab-PTX/OXA and Sor/OXA groups were compared (**Table 3**). The ARs in both groups included nausea and vomiting, abdominal pain and diarrhea, leukopenia, thrombocytopenia, liver and kidney dysfunction, and peripheral neuropathy. No significant differences were observed between the two groups in terms of nausea and vomiting and peripheral neuropathy ($P>0.05$). However, compared to the nab-PTX/OXA group, the Sor/OXA group showed a significantly higher proportion of abdominal pain and diarrhea, grade III-IV leukopenia, thrombocytopenia, and liver and kidney dysfunction ($P<0.05$).

Discussion

Primary liver cancer (PLC) is a common malignancy in clinical practice. PTX, an antitumor drug extracted from the bark of the Pacific yew tree, is renowned for its ability to inhibit tumor cell proliferation and metastasis [17, 18]. However, PTX is associated with a range of adverse effects, including allergic reactions, gastrointestinal discomfort, bone marrow suppression, and neurotoxicity [19, 20]. OXA, a platinum-based chemotherapy drug, has emerged as a treatment for advanced PLC. Unlike traditional fluoropyrimidine agents, OXA exerts its antitumor effects by inducing DNA cross-links, thereby interfering with DNA replication

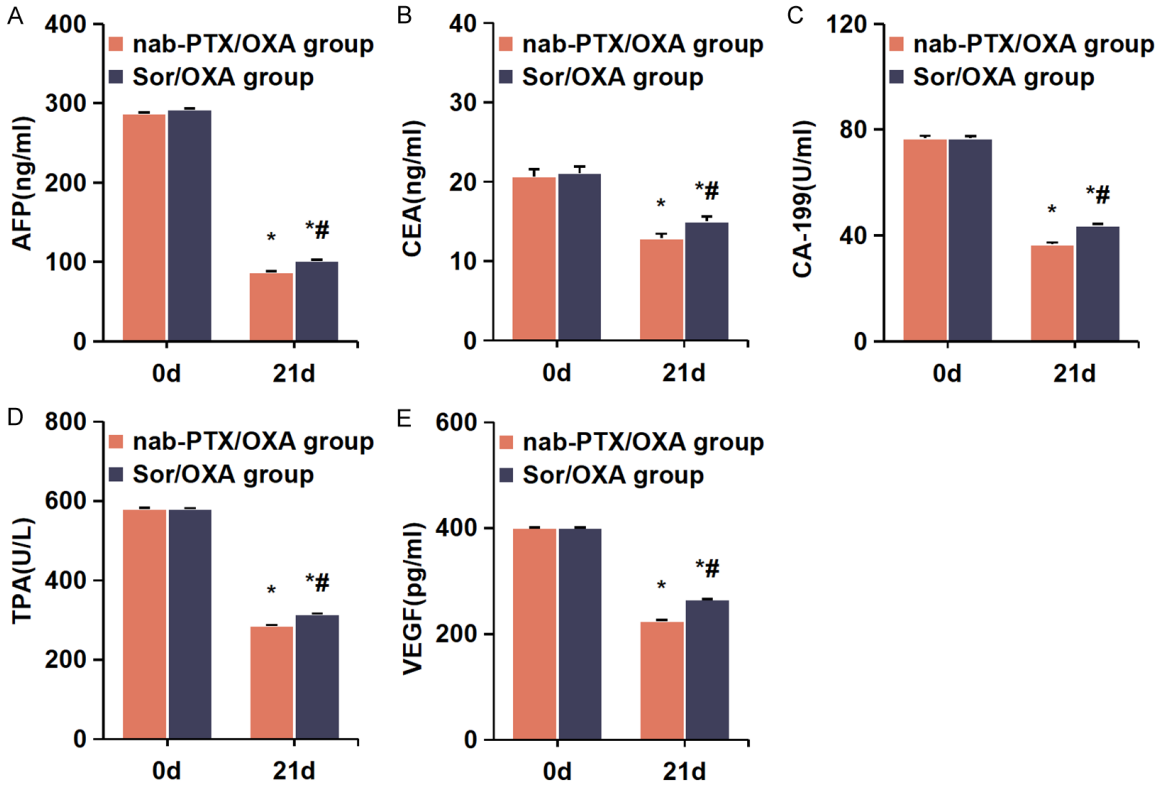

Figure 2. Comparison of serum tumor marker levels between two groups of patients before and after treatment. A: AFP levels; B: CEA levels; C: CA-199 levels; D: TPA levels; E: VEGF levels. AFP: alpha-fetoprotein; CEA: carcinoembryonic antigen; CA-199: carbohydrate antigen 199; TPA: tissue polypeptide antigen; VEGF: vascular endothelial growth factor; nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib. Compared with the same group at day 0, **P*<0.05; Compared with nab-PTX/OXA group, #*P*<0.05.

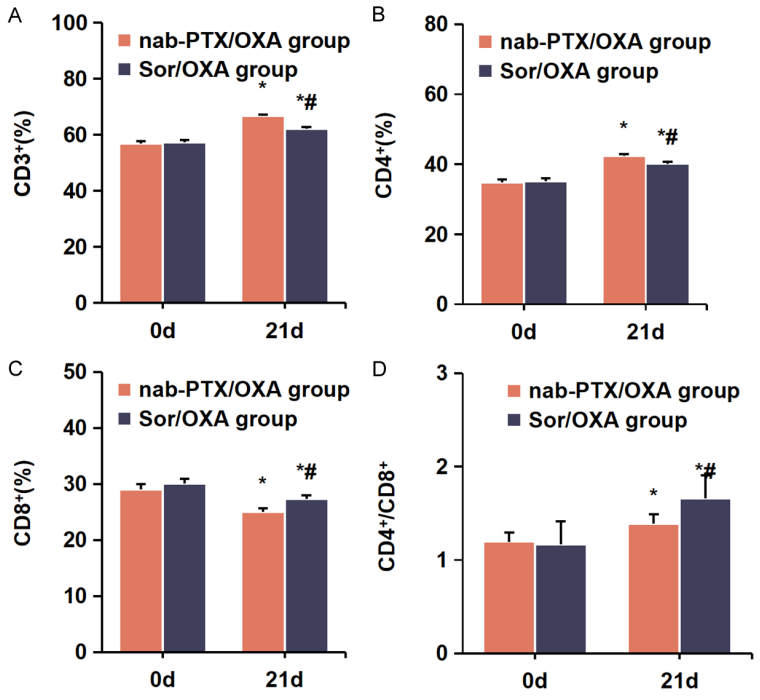

Figure 3. Comparison of serum T lymphocyte subset levels between two groups of patients before and after treatment. A: CD3+ levels; B: CD4+ levels; C: CD8+ level; D: CD4+/CD8+ ratio. nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib; CD3+: Cluster of Differentiation 3-positive cells; CD4+: Cluster of Differentiation 4-positive cells; CD8+: Cluster of Differentiation 8-positive cells; compared with the same group at day 0, **P*<0.05; compared with nab-PTX/OXA group, #*P*<0.05.

and transcription [21, 22]. In patients with advanced PLC, OXA is commonly used in combination with other drugs to enhance efficacy and minimize side effects.

This study compared the efficacy of nab-PTX combined with OXA versus Sor combined with OXA in the treatment of advanced PLC, highlighting significant advantages of the nab-

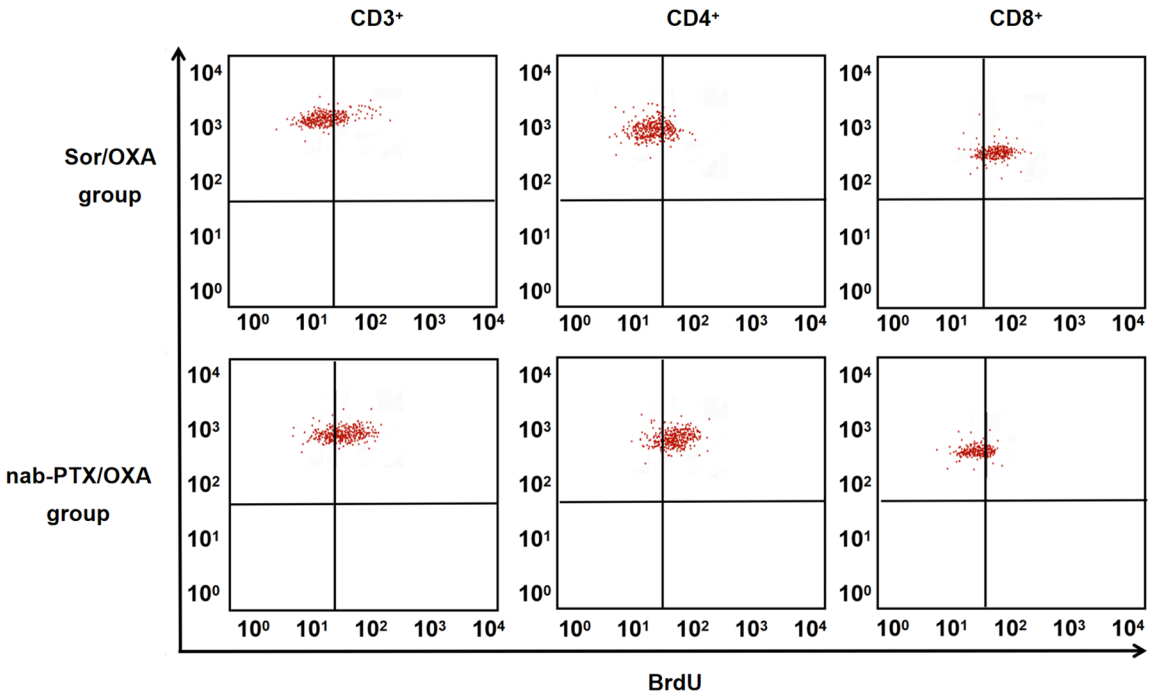

Figure 4. Flow cytometry analysis of serum T lymphocyte subsets in patients after treatment. nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib; CD3+: Cluster of Differentiation 3-positive cells; CD4+: Cluster of Differentiation 4-positive cells; CD8+: Cluster of Differentiation 8-positive cells.

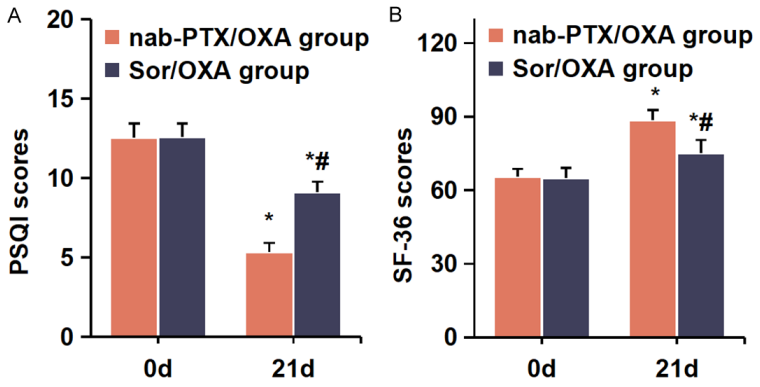

Figure 5. Comparison of SQ and QoL scores between two groups of patients before and after treatment. A: The PSQI score for SQ; B: The SF-36 score for overall QoL. SQ: sleep quality; QoL: quality of life; PSQI: Pittsburgh Sleep Quality Index; SF-36: Quality of Life; nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib; **P*<0.05 vs. the same group at day 0; #*P*<0.05 vs. nab-PTX/OXA group.

PTX/OXA regimen across multiple key indicators. The results showed that the nab-PTX/OXA group had significantly higher ORR compared to the Sor/OXA group, indicating that the nab-PTX/OXA regimen not only more effectively inhibited tumor growth but also better controlled disease progression, leading to improved clinical outcomes [23, 24]. In terms of QoL, the nab-PTX/OXA group demonstrated superior sleep quality (PSQI score) and overall QoL (SF-36 score) compared to the Sor/OXA group, suggesting that this regimen not only combats the tumor more effectively but also significantly improves patients' quality of life, alleviating both psychological and physical burdens [25]. Immune function changes further emphasized the unique advantages of the nab-PTX/OXA regimen. At 21 days post-treatment, CD3+ and CD4+ T cell counts increased from baseline in both groups, but the nab-PTX/OXA group exhibited a greater increase, suggesting more effective immune system activation and enhanced anti-tumor immune responses [26]. Conversely, the CD8+ T cell count decreased in both groups,

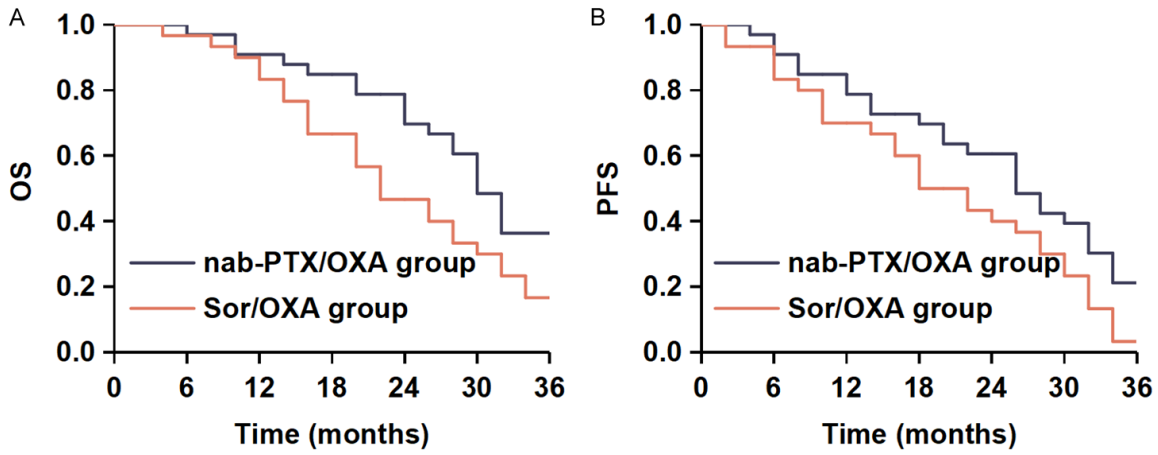

Figure 6. Comparison of Kaplan-Meier survival curves between two groups of patients. A: OS; B: PFS. OS: Overall survival; PFS: Progression-free survival; nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib.

Table 3. Adverse reactions of patients (*n (%)*)

Data	nab-PTX/OXA group	Sor/OXA group	χ^2	*P*
n	66	60		
Nausea and vomiting grade			1.678	0.195
0	34 (51.52)	24 (40.00)		
I-II	32 (48.48)	36 (60.00)		
III-IV	0 (0.00)	0 (0.00)		
Abdominal pain and diarrhea grade			13.508	0.001
0	38 (57.58)	16 (26.67)		
I-II	28 (42.42)	42 (70.00)		
III-IV	0 (0.00)	2 (3.33)		
Leukocytopenia grade			7.595	0.022
0	20 (30.30)	8 (13.33)		
I-II	38 (57.58)	36 (60.00)		
III-IV	8 (12.12)	16 (26.67)		
Thrombocytopenia grade				
0	62 (93.94)	36 (60.00)	21.327	0.001
I-II	4 (6.06)	20 (33.33)		
III-IV	0 (0.00)	4 (6.67)		
Liver and kidney function damage grade			4.044	0.044
0	36 (54.55)	22 (36.67)		
I-II	30 (45.45)	38 (63.33)		
III-IV	0 (0.00)	0 (0.00)		
Peripheral neuropathy grade			4.887	0.087
0	36 (54.55)	24 (40.00)		
I-II	22 (33.33)	20 (33.33)		
III-IV	8 (12.12)	16 (26.67)		

Note: nab-PTX: albumin-bound paclitaxel; OXA: Oxaliplatin; Sor: sorafenib.

with a more pronounced reduction in the nab-PTX/OXA group, possibly enhancing anti-tumor immunity by reducing immunosuppressive cells [27]. These findings align with previous studies showing that immune checkpoint inhibitors like PD-1/PD-L1 antibodies can improve T cell func-

tion and anti-tumor immunity [28]. While the CD4+/CD8+ ratio increased in both groups, the increase was more pronounced in the Sor/OXA group, suggesting that different treatment regimens may have distinct effects on the immune system, warranting further investigation into the underlying mechanisms. This study also demonstrated that the OS and PFS in the nab-PTX/OXA group were significantly longer than those in the Sor/OXA group, demonstrating the potential of the nab-PTX/OXA to extend patient survival and delay disease progression. In conclusion, nab-PTX combined with OXA shows comprehensive advantages over Sor combined with OXA in the treatment of advanced PLC. It not only improves treatment efficacy and safety but also significantly enhances patients' QoL and survival prognosis. These findings provide new insights into personalized treatment strategies for advanced PLC patients in future clinical practice.

In the nab-PTX/OXA group, the incidence of abdominal pain and diarrhea, grade III-IV leukopenia, thrombocytopenia, and liver and kidney dysfunction was significantly lower than that in the Sor/OXA group. These findings suggest that the nab-PTX/OXA regimen has a distinct advantage in mitigating chemotherapy-related hematologic toxicity and neurotoxicity. Specifically, nab-PTX, using human serum albumin as a carrier, not only enhances the solubility and bioavailability of the drug but also improves its selective delivery to tumor tissues, reducing accumulation in normal tissues and thereby lowering severe side effects [29]. This targeted drug delivery mechanism allows nab-PTX to maintain high anti-tumor efficacy while minimizing damage to bone marrow hematopoietic function and the peripheral nervous system. In contrast, Sor, as a multi-target tyrosine kinase inhibitor, while effective in inhibiting tumor angiogenesis, is associated with a higher risk of hematologic toxicity due to its broad pharmacologic effects, including leukopenia and thrombocytopenia. Clinically, these toxicities manifest as increased infection risk and bleeding tendencies [30, 31]. Furthermore, the use of Sor is often associated with skin toxicities such as hand-foot syndrome, which further impairs patients' QoL [32]. In comparison, the nab-PTX/OXA regimen optimizes drug delivery, significantly reducing the incidence of these severe adverse events, which is critical for improving patient tolerance and compliance [33]. Studies have shown that nab-PTX, when used in the treatment of breast cancer, is associated with lower hematologic and neurotoxicities [34]. Other studies have shown that nab-PTX can reduce severe side effects induced by chemotherapy, particularly neurotoxicity [35]. These consistent findings support the notion that nab-PTX is a safer and more effective chemotherapy option. While the nab-PTX/OXA regimen demonstrated favorable safety profiles in this study, close monitoring of hematologic parameters and neurological status remains essential in clinical practice for the early detection and management of any potential adverse effects. Furthermore, future research should explore the optimal dosing regimens and cycles to achieve the best balance between efficacy and safety, as well as assess the long-term safety of this treatment.

Conclusion

The combination of nab-PTX and OXA as first-line treatment for advanced PLC significantly improves clinical outcomes, with manageable adverse effects. This regimen also enhances patients' sleep quality and overall quality of life while prolonging survival. However, this study has limitations, such as a small sample size. Future multi-center, large-scale randomized controlled trials are required to further evaluate the efficacy and safety of this treatment regimen. Overall, these findings provide valuable insights for selecting first-line treatment options for advanced PLC.

Disclosure of conflict of interest

None.

Address correspondence to: Hai Guo, Department of Traditional Chinese Medicine, The Affiliated Huai'an No. 1 People's Hospital of Nanjing Medical University, No. 1, Huanghe West Road, Huai'an 223300, Jiangsu, China. Tel: +86-0517-80872262; E-mail: guohaidoc@126.com

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