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Drug Interactions in a Pulmonary Fibrosis Patient | 26.04.24

Research Inquiry

What are the potential drug interactions among furosemide, amiodarone, dapagliflozin, losartan potassium, quetiapine fumarate, atorvastatin, olmesartan, sertraline, metoprolol, tamsulosin, diltiazem, tramadol, pregabalin, acetaminophen/codeine, Eliquis, meclizine, methocarbamol, sildenafil, and clopidogrel?

Conclusion

- **The research has yielded multiple potential drug interactions between the listed medications.**
- **Combining the drugs listed above may affect drug exposure (drug level) of the concomitantly administered drugs.**
- **Depending on pharmacokinetic balance - combining the listed drugs may increase risk of:**
    - **Central Nervous System - CNS depression. seizures.**
    - **Cardiovascular - bleeding or thrombotic events, bradycardia and AV. block, QT interval prolongation, hypotension.**
    - **Respiratory - respiratory depression.**
    - **Gastrointestinal - Paralysis Ileus.**
    - **Metabolic - hypoglycemia, hyperglycemia.**
    - **Musculoskeletal - myopathy and rhabdomyolysis.**

Drug Interactions

The following table summarizes the potential interactions between the patient's current medications. The table contains cells with numbers that link to explanations provided below the table, to help easily locate additional information about specific drug interactions listed.

	Drug interaction
	No known interaction

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	APAP /COD	AMIO	APX	ATOR	CLD	DPF	DTZ	FRS	LSR	MCL	MCRB	MPL	OLMS	PGB	QTPN	STL	SDN	TML	TRA
Acetaminophen /codeine		4			15		19	20		21	22			23	24	25			26
Amiodarone	4		1	2	3		5		6						7	8			9
Apixaban		1			10		11									12			
Atorvastatin		2			13		14												
Clopidogrel	15	3	10	13			16									17			18
Dapagliflozin								27				28							
Diltiazem	19	5	11	14	16							29							30
Furosemide	20					27			31				32				33		34
Losartan potassium		6						31											
Meclizine	21													35	36				37
Methocarbamol	22													38					39
Metoprolol						28	29									40		41	
Olmesartan								32											
Pregabalin	23									35	38				42				43
Quetiapine FUR	24	7								36				42		44			45
Sertraline	25	8	12		17							40			44			46	47
Sildenafil								33										48	
Tamsulosin												41				46	48		

Tramadol	26	9			18		30	34		37	39			43	45	47			

APAP/COD- Acetaminophen/codeine; AMIO- Amiodarone; APX- Apixaban; ATOR- Atorvastatin; CLD- Clopidogrel; DPF- Dapagliflozin; DTZ- Diltiazem; FRS- Furosemide; LSR- Losartan potassium; MCL- Meclizine; MCRB- Methocarbamol; MPL- Metoprolol; OLMS- Olmesartan; PGB- Pregabalin; QTPN- Quetiapine fumarate; STL- Sertraline; SDN- Sildenafil; TML-Tamsulosin; TRA- Tamsulosin

1. Amiodarone - Apixaban: Concurrent use of amiodarone and apixaban may result in increased apixaban exposure and **increased risk of bleeding.**
2. Amiodarone - Atorvastatin: Concurrent use of amiodarone and atorvastatin may result in an **increased risk of myopathy or rhabdomyolysis**.
3. Amiodarone - Clopidogrel: Concurrent use of clopidogrel and amiodarone may result in increased amiodarone exposure.
4. Amiodarone - Codeine: Concurrent use of codeine and CYP3A4 Inhibitors may result in increased codeine exposure.
5. Amiodarone - Diltiazem: Concurrent use of amiodarone and negative chronotropic agents that are also CYP3A inhibitors such as diltiazem, may result in increased exposure of amiodarone and **increased risk of bradycardia, sinus arrest, or AV block.**
6. Amiodarone - Losartan potassium: Concurrent use of losartan and amiodarone may result in increased plasma levels of losartan and decreased plasma levels of the active metabolite.
7. Amiodarone - Quetiapine: Concurrent use of amiodarone and quetiapine may result in **increased risk of QT interval prolongation.**
8. Amiodarone - Sertraline: Concurrent use of amiodarone and sertraline may result in **increased risk of QT interval prolongation.**
9. Amiodarone - Tramadol: Concurrent use of tramadol and CYP3A4 inhibitors like Amiodarone may result in increased tramadol exposure and **an increased risk of seizures, serotonin syndrome and opioid toxicity.**
10. Apixaban - Clopidogrel: Concurrent use of apixaban and antiplatelet agents may result in **increased risk of bleeding.**
11. Apixaban - Diltiazem: Concurrent use of apixaban and moderate CYP3A4 inhibitors may result in increased apixaban exposure and **increased risk of bleeding.**
12. Apixaban - Sertraline: Concurrent use of apixaban and selective serotonin reuptake inhibitors (SSRIs) may result in **increased risk of bleeding.**

13. Atorvastatin- Clopidogrel: Concurrent use of clopidogrel and CYP3A4 metabolized statins may result in decreased formation of clopidogrel active metabolites resulting in high on-treatment platelet activity.
14. Atorvastatin - Diltiazem: Concurrent use of atorvastatin and diltiazem may result in **an increased risk of rhabdomyolysis.**
15. Clopidogrel - Codeine: Concurrent use of clopidogrel and codeine may result in a **reduced efficacy of clopidogrel.**
16. Clopidogrel - Diltiazem: Concurrent use of clopidogrel and diltiazem may result in decreased antiplatelet effect and **increased risk of thrombotic events**.
17. Clopidogrel - Sertraline: Concurrent use of sertraline and antiplatelet agents may result in **increased risk of bleeding**.
18. Clopidogrel - Tramadol: Concurrent use of clopidogrel and opioid agonists may result in **reduced efficacy of clopidogrel**.
19. Codeine - Diltiazem: Concurrent use of codeine and CYP3A4 inhibitors may result in **increased codeine and morphine exposure**.
20. Codeine - Furosemide: Concurrent use of codeine and diuretics may result in **reduced diuretic efficacy**.
21. Codeine - Meclizine: Concurrent use of codeine and anticholinergic CNS depressants may result in **increased risk of paralysis ileus**; **increased risk of respiratory and CNS depression**.
22. Codeine - Methocarbamol: Concurrent use of codeine and CNS depressants may result in **increased risk of respiratory and CNS depression.**
23. Codeine - Pregabalin: Concurrent use of pregabalin and CNS depressants may result in **respiratory depression**.
24. Codeine - Quetiapine fumarate: Concurrent use of codeine and anticholinergic CNS depressants may result in increased risk of paralysis ileus; increased risk of **respiratory and CNS depression**.

25. Codeine - Sertraline: Concurrent use of codeine and serotonergic CYP2D6 inhibitors may result in increased risk of serotonin syndrome, increased codeine exposure and reduced active morphine exposure.
26. Codeine - Tramadol: Concurrent use of codeine and serotonergic CNS depressants may result in **increased risk of respiratory and CNS depression**; **increased risk of serotonin syndrome**.
27. Dapagliflozin - Furosemide: Concurrent use of antidiabetic agents and selected diuretics may result in **increased risk of hyperglycemia** and an increased insulin requirement.
28. Dapagliflozin - Metoprolol: Concurrent use of antidiabetic agents and beta-adrenergic blockers may result in **hypoglycemia or hyperglycemia;** decreased symptoms of hypoglycemia.
29. Diltiazem - Metoprolol: Concurrent use of Diltiazem and beta-blockers may result in an **increased risk of hypotension, bradycardia and slow AV conduction**.
30. Diltiazem - Tramadol: Concurrent use of tramadol and CYP3A4 inhibitors may result in increased tramadol exposure and an **increased risk of seizures, serotonin syndrome and opioid toxicity**.
31. Furosemide - Losartan potassium: Concurrent use of furosemide and angiotensin receptor blockers may result in **severe hypotension and deterioration in renal function, including renal failure**.
32. Furosemide - Olmesartan: Concurrent use of furosemide and angiotensin receptor blockers may result in **severe hypotension and deterioration in renal function, including renal failure**.
33. Furosemide - Sildenafil: Concurrent use of furosemide and sildenafill may result in **increased risk of hearing loss.**
34. Furosemide - Tramadol: Concurrent use of tramadol and diuretics may result in **reduced efficacy of diuretics**.
35. Meclizine - Pregabalin: Concurrent use of pregabalin and CNS depressants may result in **respiratory depression**.

36. Meclizine - Quetiapine fumarate: Concurrent use of quetiapine and anticholinergics may result in **an increased risk of anticholinergic side effects**, including intestinal obstruction.
37. Meclizine - Tramadol: Concurrent use of tramadol and anticholinergic CNS depressants may result in **increased risk of paralysis ileus; increased risk of respiratory and CNS depression**.
38. Methocarbamol - Pregabalin: Concurrent use of pregabalin and CNS depressants may result in r**espiratory depression**.
39. Methocarbamol - Tramadol: Concurrent use of tramadol and CNS depressants may result in **increased risk of respiratory and CNS depression**.
40. Metoprolol - Sertraline: Concurrent use of sertraline and CYP2D6 substrates may result in increased CYP2D6 substrate exposure.
41. Metoprolol - Tamsulosin: Concurrent use of alpha-1 adrenergic blockers and beta-adrenergic blockers may result in exaggerated hypotensive response to the first dose of the alpha blocker.
42. Pregabalin - Quetiapine fumarate: Concurrent use of pregabalin and CNS depressants may result in **respiratory depression**.
43. Pregabalin - Tramadol: Concurrent use of pregabalin and CNS depressants may result in **respiratory depression**.
44. Quetiapine fumarate - Sertraline: Concurrent use of sertraline and QT interval prolonging agents may result in **an increased risk of QT interval prolongation.**
45. Quetiapine fumarate - Tramadol: Concurrent use of tramadol and anticholinergic CNS depressants may result in **increased risk of paralysis ileus; increased risk of respiratory and CNS depression**.
46. Sertraline - Tamsulosin: Concurrent use of sertraline and CYP2D6 substrates may result in increased CYP2D6 substrate exposure.

47. Sertraline - Tramadol: Concurrent use of tramadol and serotonergic CYP2D6 inhibitors may result in increased tramadol exposure and reduced exposure of the active metabolite M1, **increased risk of serotonin syndrome**.
48. Sildenafil- Tamsulosin: Concurrent use of sildenafill and alpha-1 adrenergic blockers may result in **potentiation of hypotensive effects.**

References

1. IBM Watson Health Products. Micromedexsolutions.com. Published 2019. https://www.micromedexsolutions.com/home/dispatch