DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

Friday 20220401

कोरोना

WHO ने 2022 में कोरोना के संभावित खतरे से किया अलर्ट, बताया बुरे से बुरे केस में क्या होगा... (Hindustan: 20220401)

https://www.livehindustan.com/lifestyle/story-world-health-organisation-chief-tedros-adhanom-tells-worst-possible-scenario-of-covid-in-2022-in-who-plan-6151496.html

World Health Organisation ने प्लान तैयार किया है कि साल 2022 में Corona से जुड़ी क्या 3 पॉसिबिलिटीज हो सकती हैं। वहीं UN Health एजेंसी का कहना है कि Omicron से अभी भी अलर्ट रहने की जरूरत है।

कोरोना के केस भारत में तो कम हो गए हैं लेकिन चीन सहित कई जगहों पर कोविड चिंता बढ़ा रहा है। इस बीच चौथी लहर को लेकर कई खबरें आ चुकी हैं। डेल्टा और ओमिक्रॉन से मिलकर बने डेल्टाक्रॉन वायरस से भी अलर्ट रहने की बात कही जा रही है। अब सबके मन में सवाल है कि 2022 में कोविड कोरोना से राहत मिलेगी या ये फिर से लोगों को दहलाएगा। वर्ल्ड हेल्थ ऑर्गनाइजेशन ने बुधवार को 3 पॉसिबिलिटीज पर चर्चा की है। कहा है कि सबसे बुरा यह हो सकता है कि इसका और तेजी से फैलने वाला वैरियंट आ जाए।

हो सकता है खतरा कम

कोरोना को लेकर प्रतिबंध हटाए जा रहे हैं। इस बीच लोगों के मन में कई तरह के सवाल हैं। कई वैज्ञानिक उम्मीद कर रहे हैं कि साल 2022 लोगों को कोविड के मामले में राहत देकर जाएगा। वहीं

डब्लूएचओ का भी यही मानना है कि बहुत पॉसिबल है ऐसा हो कि आगे चलकर लोगों में पैदा हुई इम्यूनिटी की वजह से बीमारी की सीवियरटी कम हो जाए।

मुकाबले की तैयारी

वहीं UN Health एजेंसी का यह भी कहना है कि ओमिक्रॉन का ज्यादा खतरनाक वैरियंट हमारे बीच ही है। वर्ल्ड हेल्थ ऑर्गनाइजेशन ने चीफ टेड्रोस अदनोम (Tedros Adhanom Ghebreyesus) के साथ कोरोना की तैयारी और इससे कैसे मुकाबला किया जाए इसको लेकर एक अपडेट प्लान रिलीज किया है। उन्होंने उम्मीद जताई है कि ये आखिरी ही होगा।

इम्यूनिटी से घट सकता है खतरा

कोविड के तीसरे साल में 3 क्या संभावनाएं और आशंकाएं हो सकती हैं इस पर बात की गई है। प्रेस कॉन्फ्रेंस में टेड्रोस ने कहा, अब तक हमें जो पता है उसमें ज्यादा से ज्यादा यह हो सकता है कि वायरस रूप बदलता रहे लेकिन वैक्सीन और इन्फेक्शन से मिली इम्यूनिटी से बीमारी का खतरा कम हो जाए।

नई तरह की वैक्सीन की जरूरत

उन्होंने कहा कि इम्यूनिटी कम होने के साथ केस बढ़ सकते हैं और मरने वालों की संख्या बढ़ सकती है इसके लिए कमजोर लोगों को बूस्टर डोज की जरूरत पड़ सकती है। सबसे अच्छा ये हो सकता है कि अब इसके कम खतरनाक वैरियंट आएं और बूस्टर या नई तरह की वैक्सीन की जरूरत न पड़े।

बुरे से बुरा हो सकता है ये

सबसे खराब ये हो सकता है कि एक ज्यादा खतरनाक और तेजी से फैलने वाला वैरियंट आ आ जाए। इस नए वैरियंट से लड़ने के लिए लोगों की वैक्सीन से और बीमारी से मिली इम्यूनिटी घट जाए। टेड्रोस ने कहा कि ऐसे स्थिति में इस समय मौजूद वैक्सीन में बदलाव करने पड़ेंगे और यह सुनिश्चित करना पड़ेगा और जो लोग रिस्क में हैं उन तक पहुंचाई जाएं।

कम नहीं हुई एनर्जी

WHO की टेकनिकल हेड मारिया वान करखोव ने कहा कि तीसरे साल में भी वायरस के पास काफी ऊर्जा बची है। बीते हफ्ते 10 मिलियन से ज्यादा केस और 45000 मौतें रिपोर्ट की गई हैं।

डेल्टाक्रॉन

डेल्टाक्रॉन और BA.2 'स्टेल्थ' ओमिक्रॉन में क्या है फर्क? जानें इसके लक्षण... (Dainik Jagran: 20220401)

https://www.jagran.com/lifestyle/health-what-is-the-difference-between-deltacron-and-ba2-stealth-omicron-22586111.html

कोरोना वायरस के मामले एक बार फिर बढ़ते नज़र आ रहे हैं। इसके पीछे कोविड के दो स्ट्रेन डेल्टाक्रॉन और स्टेल्थ ओमिक्रॉन बड़ी वजह हैं। आइए जानें इन दोनों के लक्षण क्या हैं और यह कैसे अलग हैं?

नई दिल्ली, लाइफस्टाइल डेस्क। Coronavirus: SARs-COV-2 वायरस लगातार म्यूटेट कर रहा है, जिसकी वजह से नए-नए वेरिएंट दुनिया भर में क़हर बरपा रहे हैं। जैसा कि हम जानते हैं कि वायरस म्यूटेट होने के लिए ही प्रोग्रेम्ड होते हैं, और इन्हें रोका नहीं जा सकता, जब तक हम इसके प्रसार पर पूरी तरह से अंकुश नहीं लगा लेते।

इस वक्त कोविड-19 के दो वेरिएंट्स जो चर्चा में बने हुए हैं। पहला है डेल्टा और ओमिक्रॉन के मिलकर बना डेल्टाक्रॉन और दूसरा ओमिक्रॉन का सब-वेरिएंट BA.2, जिसे स्टेल्थ ओमिक्रॉन भी कहा जा रहा है। ये दोनों वेरिएंट ऐसे समय में सामने आए जब दुनिया भर में COVID-19 के मामले घट रहे थे। अब यह नए वेरिएंट मामलों के बढ़ने का कारण बन रहे हैं।

इसी बीच यह जानना भी ज़रूरी है कि यह दोनों वेरिएंट एक जैसे नहीं हैं। तो आइए जानें कि इन दोनों के बीच का फर्क क्या है।

कोविड-19 का नया वेरिएंट डेल्टाक्रॉन क्या है?

शुरुआत में, विशेषज्ञों और महामारी विज्ञानियों ने दावा किया कि वायरल पुनर्संयोजन के उदाहरण अत्यंत दुर्लभ होते हैं क्योंकि इस तरह के उत्परिवर्तन के प्रसार को साबित करने के लिए कोई सबूत मौजूद नहीं थे। इसके तुरंत बाद, WHO ने डेल्टा + ओमिक्रॉन के पुनः संयोजक वेरिएंट "डेल्टाक्रॉन' के अस्तित्व को स्वीकार किया, जिसका पता फ्रांस में पाश्चर संस्थान ने लगाया था।

रिसर्च साइट MedRxiv पर प्रकाशित एक अध्ययन, जिसे कुछ हद तक CDC ने भी फंड किया था, के अनुसार, हाल ही में 22 नवंबर से 13 फरवरी के बीच एकत्र किए गए 29,719 पॉज़ीटिव कोरोना वायरस नमूनों को देखा गया। कुल मामलों में से , शोधकर्ताओं ने डेल्टाक्रॉन वायरस के दो मामले पाए।

BA.2 'स्टेल्थ' ओमिक्रॉन से कैसे अलग है डेल्टाक्रॉन?

डेल्टाक्रॉन, डेल्टा और ओमिक्रॉन दोनों की आनुवंशिक सामग्री से बना एक हाइब्रिड वेरिएंट है, इससे बिल्कुल अलग, BA.2 ओमिक्रॉन का सब-वेरिएंट है, जिसमें इसके मूल सट्रेन से ज़्यादा म्यूटेशन हैं। WHO के अनुसार, कोविड के मामलों की सीक्वेंसिंग के दौरान 86 प्रतिशत मामले स्टेल्थ ओमिक्रॉन के माने जा रहे हैं।

इसलिए इसे मूल वेरिएंट की तुलना में अधिक संक्रामक और पारगम्य माना जा रहा है। एक्सपर्ट्स का मानना है कि यह वैक्सीन से मिली इम्यूनिटी को भी चकमा दे सकता है।

इस वक्त BA.1, BA.2, BA.3 and B.1.1.529 ओमिक्रॉन के सब-वेरिएंट्स के रूप में सामने आए हैं। इनमें से BA.1 का हाल ही में काफी दबाव था, और BA.2 यानी स्टेल्थ ओमिक्रॉन एशिया और यूरोप के कई देशों में बढ़ते कोविड मामलों की वजह बना हुआ है।

क्या इनके लक्षणों में किसी तरह का अंतर है?

अभी तक "डेल्टाक्रॉन" या बीए.2 सब-वेरिएंट की वजह से किसी तरह का असामान्य लक्षण रिपोर्ट नहीं किया गया है। संक्रमित लोगों में बुखार, खांसी, सिरदर्द, थकान और गंध या स्वाद की कमी जैसे सामान्य कोरोना वायरस लक्षण विकसित होने की सबसे अधिक संभावना है। गंभीर मामलों में, रोगियों को सांस की तकलीफ, सांस लेने में कठिनाई और सीने में दर्द हो सकता है।

BA.2 सब-वेरिएंट की बात करें, तो इससे गले में ख़राश, नाक बहना, छींकना, शरीर में दर्द आदि सहित ठंड लगने जैसे हल्के लक्षण महसूस हो सकते हैं।

बढ़ते कोविड मामलों के बीच कैसे सुरक्षित रहा जाए?

कोविड के मामले बार-बार बढ़ने के पीछे इसके नए वेरिएंट्स के अलावा हमारा कोविड प्रोटोकॉल्स को नज़रअंदाज़ करना भी है। कोरोना वायरस के मामले कम होते ही लोग मास्क पहनना बंद कर देते हैं, भीड़भाड़ वाले इलाकों में घूमते हैं। जबकि हमें यह याद रखना चाहिए कि कोरोना वायरस महामारी अभी ख़त्म नहीं हुई है। इसलिए मास्क पहनना, शारीरिक दूरी बनाए रखना और स्वच्छता का सख्ती से पालन करना ज़रूरी है।

कोविड वैक्सीन की सभी डोज़ लगवाना सबसे ज़रूरी है, जो लोग वैक्सीन बूस्टर के लिए योग्य हैं, उन्हें बिना देर किए इसे लगवा लेना चाहिए।

बच्चों में बीमारियां

गर्मी के मौसम में बच्चों में बेहद आम हैं ये 5 बीमारियां, जानें इनके बारे में सबकुछ (Dainik Jagran: 20220401)

https://www.jagran.com/lifestyle/health-5-common-heat-illnesses-in-children-every-parent-must-know-about-22586584.html

गर्मी का मौसम शुरू होते हैं इससे जुड़ी कई बीमारियां भी शुरू हो जाती हैं। पेट खराब होने से लेकर बुखार जैसे रोग आम हो जाते हैं। इसलिए बेहतर है कि मां-बाप इनके बारे में जानकारी रखें ताकि बच्चे का इलाज समय पर हो सके।

नई दिल्ली, लाइफस्टाइल डेस्क।भारत एक ट्रॉपिकल देश है, इसलिए यहां कई मौसमों आते हैं लेकिन अत्यधिक तापमान भी रहता है। फिर चाहे सर्दी हो, गर्मी हो या फिर मानसून। यही वजह है कि गर्मी में स्कूल/कॉलेज दो-तीन महीनों के लिए बंद रहते हैं। गर्मी एक ऐसा मौसम भी है जब बड़ों के साथ-साथ बच्चे भी बहु बीमार पड़ते हैं। इसलिए मां-बाप को इस वक्त बच्चों को लेकर सतर्क रहने की ज़रूरत होती है। उनमें थकावट, बुखार, सर्दी जैसे लक्षण दिखें तो उन्हें हल्के में न लें।

आज हम बता रहे हैं गर्मी के मौसम में बच्चों में होने वाली आम बीमारियों के बारे में जिनके बारे में मां-बाप को सतर्क रहने की ज़रूरत है।

अस्थमा

यह साल का वह समय है जब पोलन हवा में मौजूद होते हैं। जिन बच्चों को एलर्जी है उनके लिए गर्मी और उमस स्थिति को और गंभीर बना देती है। अगर बच्चा में थकावट, घरघराहट, सांस लेते समय सीटी की आवाज़, खांसी, सांस फूलने जैसे लक्षण नज़र आएं, तो उन्हें नज़रअंदाज़ न करें, क्योंकि हवा की आवाजाही में कमी धूल और मोल्ड जैसे प्रदूषकों को वायुमार्ग में फंसा सकती है। अस्थमा अटैक को रोकने या खराब होने से बचाने के लिए, बच्चे के पास होने पर किसी को भी धूम्रपान न करने दें, घरों को धूल रहित और धूल-मिट्टी से मुक्त रखें।

चिकनपॉक्स

चेचक के कारण शरीर पर चकत्ते हो जाते हैं, बुखार, सिरदर्द होता है और इससे बच्चा सामान्य रूप से अस्वस्थ महसूस कर सकता है। उपचार का उद्देश्य बीमारी के जाने तक लक्षणों को कम करना है। यह

वायरल संक्रमण आमतौर पर बच्चों को ही प्रभावित करता है, यही वजह है कि 12 से 15 महीने की उम्र के बच्चों को वैरीसेला वैक्सीन की पहली खुराक और 4 से 6 साल की उम्र के बीच दूसरी खुराक दी जानी चाहिए। क्योंकि चेचक संपर्क और हवा में मौजूद बूंदों के ज़रिए फैल सकता है, इसलिए संक्रमित बच्चे को बाहर न भेजें।

फ्लू

कोविड-19 महामारी ने सभी लोगों को मास्क पहनना सिखा दिया है। यह एक ऐसी आदत है जिसे महामारी के बाद भी जारी रखना फायदेमंद होगा। ऐसा इसलिए क्योंकि इंफ्लूएंज़ा वायरस भी कोरोना वायरस की तरह ही फैलता है। आमतौर पर फ्लू सर्दियों में मौसम में ज़्यादा देखा जाता है, लेकिन यह गर्मी और मौसम बदलने पर भी हो सकता है। इससे बुखार के साथ खांसी और सर्दी हो सकती है। इसलिए हाथों के सफाई और शारीरिक दूरी बनाएं। आप चाहें तो डॉक्टर की सलाह से बच्चे को फ्लू शॉट भी लगवा सकते हैं।

फूड पॉइज़निंग

बच्चों को बाहर का खाना बेहद पसंद होता है। खाने से होने वाली बीमारियां गर्मियों के मौसम में आम हो जाती हैं। ऐसा इसलिए क्योंकि गर्मी में खाना आसानी से ख़राब हो जाता है। संक्रमित और अस्वच्छ खाना खाने से दस्त और उल्टियां शुरू हो सकती है, जिससे शरीर में पानी की कमी हो जाती है। यहां तक कि घर पर बने खाने को भी पुराना करके न खाने की सलाह दी जाती है।

हीटस्ट्रोक

बच्चों को खुले मैदान या बाहर खेलना पसंद होता है। जिससे गर्म मौसम में उन्हें लू लग सकती है। हाइपरथर्मिया एक ऐसी स्थिति है जहां शरीर का तापमान असामान्य रूप से ऊंचा हो जाता है, यह संकेत देता है कि यह पर्यावरण से आने वाली गर्मी को नियंत्रित नहीं कर सकता है। गर्मी से थकावट और हीट स्ट्रोक चिकित्सा आपात स्थिति हैं जो हाइपरथर्मिया के अंतर्गत आती हैं। हाइपरथर्मिया से पीड़ित बच्चा सिर दर्द, बेहोशी, चक्कर आना, ज़्यादा पसीना आना, अकड़न जैसे लक्षणों का अनुभव कर सकता है।

बच्चे को भीषण गर्मी से बचाने के लिए उस समय बाहर न भेजें, जब गर्मी चरम पर होती है। शाम होने के साथ बच्चे को बाहर खेलने भेजा जा सकता है

थायराइड विकार

नाखून और बालों में ऐसे बदलाव थायराइड विकारों के हो सकते हैं संकेत, ऐसे करें लक्षणों की पहचान (Amar Ujala: 20220401)

https://www.amarujala.com/photo-gallery/lifestyle/fitness/thyroid-disorders-causes-and-prevention-tips-symptoms-on-nails-and-hair

नाखूनों पर थायराइड विकार के लक्षण

थायराइड विकार, एक प्रकार की हार्मोनल समस्या है, जिसके मामले पिछले एक दशक में काफी तेजी से बढ़ते हुए देखे जा रहे हैं। थायराइड, एक तितली के आकार की ग्रंथि है जो गर्दन के सामने के निचले हिस्से में होती है। यह ग्रंथि कुछ विशिष्ट हार्मोन का उत्पादन करके मेटाबॉलिज्म को नियंत्रित करने में मदद करती है। इस ग्रंथि से ऐसे कई महत्वपूर्ण हार्मोन भी उत्पादित होते हैं जो शरीर की कोशिकाओं को बताते हैं कि कितनी ऊर्जा का उपयोग करना है। मसलन शरीर के कामकाज को व्यवस्थित रखने में इस ग्रंथि की महत्वपूर्ण भूमिका मानी जाती है। ऐसे में इसमें होने वाली समस्याओं का असर पूरे शरीर को प्रभावित कर सकता है।

जीवनशैली-आहार और कई अंतर्निहित स्वास्थ्य समस्या जैसे कारकों के चलते कई बार थायराइड ग्रंथि का सामान्य कामकाज प्रभावित हो जाता है, जिसके कारण हार्मोन्स का उत्पादन नहीं हो पाता है। अगर इस स्थिति पर ध्यान न दिया जाए तो समय के साथ एनीमिया, हृदय रोगों की समस्या और यहां तक कि कोमा की भी दिक्कत हो सकती है। स्थिति के शुरुआती लक्षणों को पहचानने से सही समय पर उचित उपाय करने में मदद मिल सकती है। आपके नाखून भी थायराइड विकार का संकेत देते हैं, आइए आगे की स्लाइडों में इस बारे में जानते हैं।

थायराइड विकार के क्या कारण हैं?

थायराइड विकार के सामान्य संकेत

क्लीवलैंड क्लीनिक की रिपोर्ट के अनुसार थायराइड रोग दो प्रकार के होते हैं- बहुत अधिक मात्रा में थायराइड हार्मोन का उत्पादन (हाइपरथायरायडिज्म) और बहुत कम मात्रा में थायराइड हार्मोन का उत्पादन (हाइपोथायरायडिज्म)।

हाइपरथायरायडिज्म की स्थिति में ऐसी दिक्कतों का अनुभव होता है-

चिंता, चिड़चिड़ापन और घबराहट का अनुभव करना।

सोने में परेशानी होना।

वजन कम होना।

मांसपेशियों में कमजोरी और कंपकंपी होना।

अनियमित मासिक धर्म या मासिक धर्म रुक जाना।

गर्मी के प्रति संवेदनशील महसूस करना।

वहीं हाइपोथायरायडिज्म में लोगों को ऐसी दिक्कतों का अनुभव होता है-

थकान महसूस होना।

वजन बढ़ना।

चीजों को बार-बार भूलने की समस्या।

कर्कश आवाज।

ठंडे तापमान के प्रति संवेदनशीलता।

नाखूनों के कमजोर होने की समस्या

नाखूनों से कैसे पता करें थायराइड विकार?

स्वास्थ्य विशेषज्ञों के मुताबिक आपके नाखून, शरीर की तमाम तरह की समस्याओं के बारे में संकेत देते हैं। यदि आपके नाखूनों का विकास धीमा हो गया हो या फिर बार-बार टूटे रहे हों तो ये लक्षण अंडरएक्टिव थायराइड समस्या का संकेत हो सकते हैं। थायराइड हार्मोन का उत्पादन कम होने के कारण शरीर के सभी कार्य धीमे हो जाते हैं। यह नाखूनों को भी प्रभावित करता है। नाखूनों पर ध्यान रखकर प्रारंभिक तौर पर इस समस्या का अंदाजा लगाया जा सकता है।

नाखूनों पर बीमारियों के लक्षण

क्या कहते हैं विशेषज्ञ?

अमेरिकन एकेडमी ऑफ डर्मेटोलॉजी एसोसिएशन के अनुसार, अंडरएक्टिव थायराइड की स्थिति में नाखूनों पर लकीरें भी नजर आ सकती हैं। वहीं नाखूनों का कमजोर होना इसका सामान्य संकेत है। कुछ रोगियों को बिस्तर से उठते समय टूटे हुए नाखून दिख सकते हैं। स्वास्थ्य विशेषज्ञों के मुताबिक थायराइड विकार के अन्य लक्षणों के साथ यदि आपको नाखूनों से संबंधित इस तरह की दिक्कतों का अनुभव होता आ रहा हो तो इस बारे में किसी विशेषज्ञ से सलाह जरूर ले लें।

5 of 5

बालों में रूखेपन की समस्या

ऐसे भी लगाया जा सकता है अंदाजा

स्वास्थ्य विशेषज्ञों के मुताबिक थायराइड विकार की समस्या में शरीर में कुछ अन्य दिक्कतें भी महसूस होने लगती हैं, इस बारे में भी लोगों को अलर्ट रहना चाहिए। थायराइड हार्मोन पसीने के स्तर को नियंत्रित करते हैं, इसलिए अंडरएक्टिव थायराइड की स्थिति वाले रोगी को कम पसीना आ सकता है। इससे नाखून, त्वचा और बाल रूखे दिख सकते हैं। शरीर में असामान्य बदलाव महसूस होने पर डॉक्टर से सलाह लेकर स्थिति का समय पर निदान और उपचार किया जाना बहुत आवश्यक है।

Covid-19

India logs 1,335 fresh covid cases, 52 deaths in 24 hours (Hindustan:20220401)

https://www.hindustantimes.com/india-news/india-logs-1-335-fresh-covid-cases-52-deaths-in-24-hours-101648784706828.html

The active covid cases currently stand at 13,672 - comprising 0.03% of the total covid infections.

Covid-19 cases: India logs 1,335 fresh covid cases, 52 deaths in 24 hours (HT File Photo)

India on Friday reported 1,335 fresh coronavirus cases, a minor rise in the daily cases as compared to Thursday, taking the total tally to 4,30,25,775 covid cases. The country also recorded 52 deaths in the last 24 hours, bringing the total death toll due to the virus to 5,21,181.

According to the health ministry, the active cases currently stand at 13,672 - comprising 0.03% of the total covid infections.

A total of 1,918 people recovered in the last 24 hours, taking the recovery rate to 98.76 in the country, while the daily positivity rate stood at 0.22%

India has administered 1,84,31,89,377 vaccine doses in the country so far, according to the CoWin portal. 23,57,917 vaccine doses were administered in the past 24-hours. On Thursday, Uttar Pradesh became the first state in India to administer 30 crore covid-19 vaccine doses.

As the country is witnessing a downward trend in the covid cases, Delhi and Maharashtra - two of the worst-hit states due to the coronavirus, have decided to lift all covid curbs.

The Delhi Disaster Management Authority (DDMA) on Thursday decided to do away with a fine for not wearing face masks in public places. Until now, a fine of ₹500 was imposed for not wearing masks in public places across the national capital. Delhi's covid cases tally currently stands below the 1500 mark.

The Maharashtra government on Thursday withdrew all restrictions related to the Covid-19 pandemic. The government also revoked the Epidemic Diseases Act and Disaster Management Act that had been in force for the last two years. The active cases in Maharashtra currently stand at 902.

Multiple sclerosis

What does the latest research say about multiple sclerosis? (Medical News Today: 20220401)

https://www.medicalnewstoday.com/articles/in-conversation-what-does-the-latest-research-say-about-multiple-sclerosis

Millions of people worldwide live with multiple sclerosis (MS), a life-altering, progressive condition. What is the likely cause of MS, and how is medical research advancing towards better treatments? We explore these questions and more in our latest In Conversation podcast.

Design by Diego Sabogal.

Multiple sclerosis means “many scars.” It is a chronic condition that mainly affects the central nervous system, where the protective sheath of nerves in the brain, spinal cord, and optic nerves, called “myelin,” slowly degrades.

More recently, evidence is also emerging of some involvement of the peripheral nervous systemTrusted Source in the development of this condition.

The symptoms of MS vary widely among people and range from blurred vision, numbness, and tingling in the limbs to progressive disease that can lead to paralysis.

There is no cure for MS, but there are drugs that can alter the course of the condition.

Research in recent years has determined a few things about risk factors. For example, low levels of vitamin D, smoking, having overweight, and living farther from the Equator can increase the risk. Moreover, MS affects around three times as many women as men.

Perhaps most intriguingly, some research has found a link between MS and infection with the Epstein-Barr virus (EBV). This is the virus that causes mononucleosis, or "mono," sometimes also known as "glandular fever."

Earlier this year, the strongest evidence yet that EBV may cause appeared in the scientific journal Science.

In our latest In Conversation podcast, we spoke with Dr. Antje Ronneberger, a 53-year-old family doctor from Devon, United Kingdom, who recently retired due to her MS diagnosis. We also spoke with Dr. Marianna Cortese, research associate at Harvard T.H. Chan School of Public Health in Boston, and co-author of the Science paper arguing that EBV infection could be a likely cause of MS.

This article provides an edited and shortened record of Medical News Today's In Conversation podcast about MS. We have added reference links to key research findings mentioned in the podcast. Please listen to the podcast — below or on your preferred platform — for the full discussion.

'I thought I had burnout'

Dr. Hilary Guite: Antje, how did you know you had MS?

Dr. Antje Ronneberger: That's a very difficult question because it took a long time [to receive a diagnosis]. Although I'm a doctor myself, who sometimes has to do with an MS diagnosis, I didn't know I had MS. I just felt there was something wrong. I was incredibly fatigued. That was probably my first symptom. But as you know, all doctors work very hard, especially family doctors in the U.K. I worked far too long, for too many hours, and put it down to that.

So I thought I had burnout rather than anything else. Then my next symptom was probably mobility problems, balance problems, that kind of thing. I became clumsy and incredibly slow. So those were probably the first symptoms.

And then, what is very unusual for MS is that I lost a lot of weight, about 20 kilos, which is not the rule at all, and didn't make you think of MS. But that happened to me, not sure why.

Maybe it was the stress, but that's what brought me to see my doctor and have investigations because I couldn't stop the weight loss.

Dr. Marianna Cortese: How long did it take you to be diagnosed? It must have been very difficult, the wait and uncertainty.

Dr. Ronneberger: I probably had some symptoms for about 10 years, or maybe even 20, my neurologist thinks, because I had balance problems for a short period of time 20 years ago. But let's say 5 years, it became more and more significant [over the last] 5 years.

Dr. Guite: You had a brain scan, that was the thing that sealed the diagnosis because there's so much overlap with the symptoms with all sorts of other things. How did you get to the point of getting a brain scan?

Dr. Ronneberger: Well, I think the fatigue was one reason. The other thing was that I had a certain weakness in my right leg, which was only there if I walked for a while and I tripped over my right foot. So I do have a foot drop now. That sort of became slowly apparent. And that's why my family doctor requested an MRI scan of my spinal cord.

Only after that he referred me to the neurologist who asked for a brain scan of my head as well because he didn't suspect MS. The first neurologist — all my examinations by him were actually normal. And then I had the brain scan, and he phoned me a few days later and said it looks like demyelination and MS. So that's how it came about.

Dr. Guite: Myelin is the protective sheath that covers nerve fibers. So demyelination, do either of you want to explain what that actually means what it looks like on the scan?

Dr. Cortese: What happens in MS is that the immune system attacks the myelin sheath around the neurons in the central nervous system, and this myelin sheath breaks down.

This can affect the signal transmission of the nerve and also makes the nerve more vulnerable to damage since this myelin sheath is really there for the insulation and protection of the neuron. This can lead to an array of different symptoms, as Antje was describing.

'It's not clear who will have a more benign course'

Dr. Guite: There are different types of MS, aren't there? There's a type that's progressive, and then a type where people have attacks with remissions and may even actually go back almost to normal. What type do you have, Antje?

Dr. Ronneberger:I've got the remitting relapsing form.

Dr. Guite: So that's the most common, isn't it? It's about 85% of people who have that. What brings the attacks on? Is this sudden, you suddenly get what, like blurred vision or dizziness?

Dr. Ronneberger: [My relapses] are very, very subtle. That's why it took so long to diagnose [my MS]. What brings them on? Not sure.

Actually, I was going to ask Marianna if she's got any more research in that way. But they say it could be stress, it could be tiredness, and viral infections, as any virus makes it worse and especially fatigue. Sleep deprivation is another thing.

Dr. Cortese: Unfortunately, ultimately, it's not well understood. This is something we're also currently studying in our group — whether they are markers that could help us predict whether someone will have a more severe disease course, more attacks, but it's ultimately not well understood.

And that's also something that patients struggle with when they get a diagnosis in the middle of their lives. It's not clear who will have a more benign course and a more severe course.

And this could also help to select more adequate treatments, more potent treatments if the disease will go more severely. But you know, more potent treatments can have more side effects. So this is a very relevant question that the community is investigating, but it's not well understood.

Dr. Ronneberger: And it can also change from one time to another. So you might start off with a mild case or slowly progressing, and then it can suddenly become much more severe and quickly progressing. That is the weird thing. And you never know what tomorrow brings.

Dr. Guite: What do you fear the most?

Dr. Ronneberger:The loss of independence, I've already lost a lot of my independence. I mean, I'm 53, and I need help with a lot of things.

And I used to be really independent and extremely active, traveling, doing sports, extremely sociable, you could say, and I loved having people around, and [now] all that is making me really, really fatigued and tired and have to plan everything.

It's definitely life-changing completely, and I have had to give up my job. I mean, that was my main issue recently. I've only given up at the end of January. So I was going to carry on working at least a bit. But unfortunately, that's not to be now. So that is a big thing.

People are asking: "How are you getting on with it?" I say: "Well, I feel like something has been amputated." It's really like that because I always wanted to be a doctor from when I was about 10.

So there was no other option for me if I hadn't been a doctor, I would have been a nurse or carer, you know, depending on grades. And I can't do any of that. Now, I can't do any paid work now because of my pension. So it's very hard. So I'm looking for a place to be at the moment.

MS and the Epstein-Barr virus

Dr. Guite: Marianna, what have you found out about the onset of MS through your research in the recent paper in Science?

Dr. Cortese: Well, in the recent paper, what stands out is that something that has been a suspicious agent for MS for a long time and investigated by many groups in the world: The Epstein-Barr virusTrusted Source seems now, with these new findings, to be the leading cause of MS.

This [study] is a collaborative effort that started over 20 years ago with the United States military. The senior authors, my mentors, Dr. Ascherio and Dr. Munger, really did the mammoth work in this whole project. And it took this long to get together such a big cohort.

[It was] a cohort of U.S. military personnel, comprising 10 million individuals, and they gave 62 million serum samples in total. And in this cohort, we identified those who developed MS during their military service through medical record reviews. There were 955 individuals [in total], and we could access up to three blood samples [for] 800 of these individuals.

We saw that all of them but one person were infected with EBV by the time they developed MS.

And then, we also did an additional analysis looking at who amongst them was negative for EBV at the start of the military duty period, and there were only 35. Then, through [the] follow-up [period], 34 of those seroconverted, meaning they acquired EBV. And then, they went on to develop MS. So only one did not seroconvert.

Among the controls, 107 were EBV-negative at baseline. Only 50% seroconverted, and that corresponds to the actual seroconversion rate. This is how many people acquire EBV in adulthood per year, so this is like the baseline rate.

And in individuals who developed MS, it was almost all that seroconverted, and this leads to the strong risk estimate. This is [why] it seems like acquiring EBV versus remaining negative for EBV leads to a 32 fold increased risk of developing the disease.

This is why we think it is the leading cause of MS because nothing no other risk factor ever looked at comes even close to that. But also, an additional analysis showed increases of a biomarker in the blood, which indicates that there's already something going on in the brain, that there's already neural axonal injury going on.

There is another biomarker we measured, and we really see that EBV even precedes increases in this even when the patient doesn't have symptoms yet, but just a biomarker increase in the blood.

Dr. Guite: I mean, it really is quite extraordinary. This is as strong as the linkTrusted Source between smoking and lung cancer. But if you think about the absolute risks of smoking and lung cancer — if you smoke and carry on smoking through your life, somewhere between one in 20 or 30 people who smoke will get lung cancer, whereas now it's a different scale if you're talking about someone with EBV. Can you take us through those absolute risks?

Dr. Cortese: In an adult population, about 95% are infected with EBV, were infected at some point in their lives, and remain infected with EBV. Once you get the virus, you remain infected, you cannot clear the body from it.

If we talk about MS, the numbers are one in 200 to 400 individuals developing MS. This is the lifetime risk of one in 200 to 400. It depends on gender, so women are more likely to develop MS. That's why there's the range.

So yes, a very common virus is able to cause a relatively rare disease such as MS. And this may seem like a paradox, but it's actually pretty common in biology that common viruses can lead to rare diseases. So actually MS can be considered a rare complication of an Epstein Barr Virus infection at this point.

And I mean, it's the same with lung cancer, right? Not everyone who smokes will develop lung cancer, just that the numbers are a little less extreme, but it's similar here.

The trouble with establishing causality

Dr. Guite: So Marianna, why has it been so hard to find this association? There's been a smoking gun around monoTrusted Source for quite a long time now.

Dr. Cortese:The findings from many, many groups over the years have been consistent and really pointing to EBV. However, it was very difficult to talk about causality.

To talk about causality, we would need to run a randomized control trial. We would take two groups and expose one group to EBV, the other not and follow them over time, until age 30-40, and see what happens.

Such a study is not possible for obvious reasons. EBV is widespread, you get it from other sources. It's just not possible to do such a study, and also not ethical.

And so what we tried to do in this study in the military population is find the closest possible study. We wanted to find a group of individuals who were not infected by EBV and follow them over time.

And this is why conducting such a study is so difficult, because EBV is so widespread, so to find individuals that are negative to begin with is difficult. [Moreover,] MS is a relatively rare disease, so to find individuals who were negative in early adulthood and then went on to develop MS is even harder.

This leads to the requirement of such a big number in such a large cohort. And this is why it wasn't possible to talk about causality so far.

Dr. Guite: Where does this leave other risk factors, such as vitamin D deficiency, smoking, overweight, and exercise as protective?

Dr. Cortese:There are other factors that have been consistently associated with MS, and what we think is that they remain important since we almost all are infected with EBV.

These factors, such as low vitamin D levels, may further modify the MS risk once you have acquired EBV. So it seems like EBV really makes your risk of developing the disease jump up, but then there are other factors needed that further modify your risk.

Dr. Guite: Marianna, I read that EBV lurks in the B lymphocytes forever. So if someone's got a relapsing remitting type of MS, do you think that's viral reactivation or something else that's going on?

Dr. Cortese: That's definitely one possibility. EBV remains — we call it "latent" — in B cells throughout life. It hides in the B lymphocytes from the immune system.

[However,] you shouldn't imagine every B cell has EBV in it. It's actually one in 100,000 to 200,000 B cells that you will detect EBV in, but that's what happens once you acquire EBV. Most people do acquire it in childhood, without any symptoms, and will keep the virus in the B cells.

The virus has evolved to really hide from the immune system, and then intermittently it will reactivate. So the infectious cycles are renewed, and the virus is shed into the saliva, and that's the transmission route to other people.

And it could remind us of a relapsing remitting disease course, these reactivation cycles. However, we don't know [for sure], this is definitely one hypothesis. It's in general not understood and not clear whether EBV is also involved in the disease course.

The study in Science does not answer that [question]. This is the next most relevant question: What's the underlying mechanism with which EBV causes MS? And related to that, depending on the mechanism, [we might infer] whether it is also involved in defining how severe the disease will take its course.

Future avenues for treatment and prevention

Dr. Guite: After getting to understand the primary cause of a disease, the next step is treatment. So what does this tell us about treatment for MS?

Dr. Cortese: If EBV was also involved in the disease course, as in defining whether someone has more relapses or progresses more rapidly, then you could imagine that targeting the infectious agent more directly could treat the disease in a better way.

And even a cure becomes an option. But there are a lot of "ifs;" EBV could also just set up a trigger and then no more play a role once the disease starts. That's also a possibility. But we need to understand that better.

Dr. Ronneberger: Nerve tissue is not able to regenerate easily, is it? So even if you find a cure to get rid of the EBV or vaccination, or an antiviral, even then, you know, the damage is done in a way.

And all nerves are affected — peripheral, central, everything. So I'm not sure what would be needed to make it regenerate the myelin.

Dr. Cortese: Earlier treatments could definitely prevent [the myelin damage], but then again how does the early phase of MS, where there are more neural inflammation attacks and relapses, affect the longer-term progression?

And how can we prevent the nerve from dying or becoming so vulnerable that it cannot restitute? These are all questions that are somehow related but very relevant, and all the areas are being investigated separately as well.

Dr. Guite: So where does that leave treatments like monoclonal antibodies?

Dr. Cortese: The most potent drugs we have today, the monoclonal antibodies called OcrelizumabTrusted Source and RituximabTrusted Source, actually target B cells. Think about the B cells as a reservoir of EBV.

More than suppressing the immune system, what it could hint at is that you minimize the B cells that have EBV in them. So this is one argument that maybe EBV plays a role in the disease course.

What these drugs do is minimize the B cells available circulating in the blood. And they're very effective against at least the neuroinflammatory part of the disease, that is, the relapses. So they're a little bit like shooting with a cannon, they target B cells in general and can lead to other problems.

So if we were to have more targeted treatments, for example, antivirals, then maybe we could better treat MS, if EBV is involved. So really, the main thing is to find the underlying mechanisms.

Dr. Guite: What are the hopes for the prevention of MS?

Dr. Cortese: The idea of a vaccine is a nice one, and many groups have been working on a vaccine for years. But it is very challenging if we think of MS.

Because you can imagine if people get infected early in life, mainly with EBV, then such a vaccine would need to be given early in life and also convey sterile immunity throughout life.

It's also difficult to test. If you give a vaccine early in childhood, how are you going to follow people in a trial for 30-40 years? It's very challenging.

So I think the lower hanging fruit is really the treatment options. [We need] to understand the mechanisms and then, related to what we understand, develop more targeted treatments.

Dr. Ronneberger: It's amazing what you're doing. And you know, in the last 20 years, I would have never thought that in my life as a doctor, as I'm now at the end of my career, I would see so many different illnesses being treated, like [COVID-19], and now [potentially] MS.

Cardiovascular

Long COVID's cardiovascular implications (Medical News Today: 20220401)

https://www.medicalnewstoday.com/articles/in-conversation-long-covids-cardiovascular-implications

Millions of people worldwide live with long COVID, a condition characterized by symptoms of COVID-19 and other syndromes months after the initial illness has subsided. One aspect of particular concern is its cardiovascular implications, including a rise in postural orthostatic tachycardia syndrome (POTS) and increased cardiovascular disease risk. Our latest In Conversation episode delves into this topic.

Design by Diego Sabogal.

All data and statistics are based on publicly available data at the time of publication. Some information may be out of date. Visit our coronavirus hub and follow our live updates page for the most recent information on the COVID-19 pandemic.

It is unclear how many people around the world live with long COVID. However, one study that is yet to undergo peer review estimates that as of August 2021, about 43% of people who tested positive for COVID-19, and more than half of those who received hospitalized care for this disease, ended up developing long COVID.

The results of a survey published in eClinicalMedicineTrusted Source in July 2021 indicate that long COVID causes an array of diverse symptoms that "affect multiple organ systems, with impact on functioning and ability to work."

The authors of this paper also point out that people with long COVID experience some unexpected conditions after their initial illness, including a hard-to-diagnose syndrome known as POTS.

Stay informed with live updates on the current COVID-19 outbreak and visit our coronavirus hub for more advice on prevention and treatment.

POTS involves a complex mix of symptoms, including lightheadedness, brain fog, fatigue, headaches, blurry vision, heart palpitations, and nausea. These symptoms are linked to either low blood pressure or high blood pressure — hypotension or hypertension, respectively — although the precise cause behind these effects remains debatable.

Other dataTrusted Source indicate that acute COVID-19 can lead to various cardiovascular complications, including stroke, heart attack, arrhythmia, deep vein thrombosis, and pericarditis, which is inflammation of the heart membrane.

A study that appeared in Nature MedicineTrusted Source in February 2022 goes so far as to suggest that people who develop COVID-19 have an increased risk of experiencing cardiovascular problems a year after the initial disease.

According to the study authors, at 12 months post-COVID-19, people continue to have an increased risk of "cardiovascular disease spanning several categories, including cerebrovascular disorders, dysrhythmias, ischemic and non-ischemic heart disease, pericarditis, myocarditis, heart failure, and thromboembolic disease."

What is more, they write, "The risks were evident regardless of age, race, sex, and other cardiovascular risk factors, including obesity, hypertension, diabetes, chronic kidney disease, and hyperlipidemia; they were also evident in people without any cardiovascular disease before exposure to COVID-19."

To better understand how and why COVID-19 and long COVID have cardiovascular implications, in our latest In Conversation podcast, we have spoken with three experts and one person who continues to navigate the difficulties of living life with long COVID.

These individuals are:

Angela Meriquez Vázquez, Body Politic president and long COVID patient

Dr. Lesley Kavi, trustee and chair of PoTS UK and visiting professor at Birmingham City University, United Kingdom

Dr. Artur Fedorowski, associate professor of cardiovascular medicine at the Karolinska Institute and Karolinska University Hospital in Stockholm, Sweden

Dr. Tae Chung, assistant professor of physical medicine and rehabilitation at Johns Hopkins Medicine and director of the Johns Hopkins POTS Program

Cardiovascular complications of COVID-19

According to Dr. Fedorowski, "somewhere between 1% and 10% of individuals [who contracted SARS-CoV-2] will develop all these [cardiovascular] complications, [such as] myocarditis, pericarditis, and even blood clots building in [the] arteries."

The difficulty in treating these cases, moreover, is [because] the cardiovascular impact can be difficult to pinpoint at first.

"We are talking about very small blood clots in very small arteries — they are not so easy to detect," said Dr. Fedorowski. "But some patients may report having blue fingers out of nowhere, just being infected a few days before. And this might be a sign of a very small, tiny blood clot in [the] peripheral blood arteries."

The Nature MedicineTrusted Source study that we referred to earlier in the article shows that there is an increased risk of a whole range of cardiovascular outcomes even in those not admitted to hospital with severe COVID-19 — that is, even in milder cases of the disease.

To reach this conclusion, the study authors analyzed data from a large cohort of "153,760 individuals with COVID-19, as well as two sets of control cohorts with 5,637,647 (contemporary controls) and 5,859,411 (historical controls) individuals."

This ongoing risk of cardiovascular issues does not apply only to adults. According to a paper in CirculationTrusted Source in November 2020, children can also experience acute heart failure weeks after having had a SARS-CoV-2 infection. This is likely to be an effect of long COVID in children, which is also under investigation.

However, the syndrome that has most puzzled scientists regarding its association with long COVID is POTS.

What is POTS, really?

The medical community generally describes POTS, the syndrome that affects more and more people with long COVID, as a dysautonomic phenomenon — that is, something that affects the autonomic nervous system.

The autonomic nervous system is the body's "autopilot mode," which controls key bodily functions, such as heart rate, breathing, and digestion.

POTS is one of several forms of dysautonomia, alongside neurocardiogenic syncope, which involves frequent fainting spells and multiple system atrophy, a rare and fatal condition that leads to rapid systemic deterioration.

The symptoms of POTS are as numerous as they are varied, ranging from lightheadedness upon standing up from a seated position to tachycardia (an abnormally rapid heart rate), shortness of breath, and digestive symptoms.

This heterogeneity of symptoms can make POTS difficult to diagnose. Doctors often mistake it for an anxiety disorderTrusted Source, as symptoms such as a rapid heart rate and heart palpitations also occur in people who experience anxiety.

"The problem with POTS is that it seems to be not only a cardiovascular problem — [a] heart and vessel problem — [but also] a problem of your nervous system, sometimes on your gastrointestinal system," Dr. Fedorowski explained.

"And in the end, we call it 'dysautonomia,' as it seems [to be] about your autonomic nervous system, which controls all your autonomic functions […]. And as the autonomic nervous system controls, first of all, your circulatory system, the main symptoms that you feel are from the circulatory or from your heart palpitations or blood pressure instability — you don't feel good when you stand up, and so on. But the problems are a little bit diffused," he noted, pointing out that even top specialists may find it hard to diagnose POTS correctly.

Ms. Meriquez Vázquez described her experience of POTS as a life altering syndrome, and she confirmed the similarity between symptoms of POTS and those of a panic attack:

“[M]y POTS started as very severe adrenaline rushes along with a racing heart, especially when I was standing — I would get so nauseated and dizzy. From all of the adrenaline, it felt like a panic attack, but it would come out of nowhere.”

Why does adrenaline, or epinephrine, play a role? Dr. Kavi explained that “the sympathetic nervous system is the fight-or-flight system, and that’s where the adrenaline […] — noradrenaline — comes in.”

“The parasympathetic system is the rest-and-digest system. And for us to function normally, we have to have a balance between the two — a sort of equilibrium. And it’s when that equilibrium gets disrupted, and one or [the other] is overpowering that people develop problems,” she explained.

What causes POTS?

The mechanisms behind POTS remain unclear, but ongoing research is searching for the likeliest explanations.

A study published in February 2022 in Cells found that people with POTS have platelet storage pool deficiency, a phenomenon linked to symptoms such as frequent nosebleeds, dysmenorrhea, easy bruising, and anemia.

It also showed that people with POTS have elevated inflammatory biomarkers, all of which may suggest a state of chronic inflammation.

“[T]he data provided [in this study] suggest that POTS is a mixed inflammatory pattern disease,” the authors conclude.

POTS before and after COVID-19

Although more and more media content has started looking at POTS as a long-term effect of SARS-CoV-2 infections, POTS itself is not a newly emerged syndrome.

According to data that the nonprofit organization Dysautonomia International cited well before the pandemic, an estimated 1–3 million people in the U.S. had POTS.

Although it is unclear how many more people are seeking care in the aftermath of COVID-19 than they were pre-pandemic, anecdotal reportsTrusted Source seem to indicate a steep increase in cases, most of them associated with long COVID.

Dr. Fedorowski also told us that he and his colleagues at the Karolinska University Hospital in Sweden have been seeing an influx of people with long COVID whom doctors have referred for POTS treatment:

“We experience a huge inflow of new referrals from different parts of the region of Stockholm, meaning that in the Stockholm area, [where] we have around 2.5 million citizens, […] from [that] whole area, we are getting referrals from primary care doctors [and] from other specialists from other hospitals regarding people who developed what we call ‘long

COVID' or 'post-COVID syndrome.' The main reason they are sent to us is that [here] is quite [a] high clinical suspicion of POTS — postural orthostatic tachycardia syndrome."

According to Dr. Fedorowski, at almost 2 years into the COVID-19 pandemic, the number of referrals for POTS rehabilitation "has doubled or tripled."

Dr. Chung made a similar observation about the Johns Hopkins POTS Program, saying that he and his colleagues "have [had] at least twice or three times more referrals" at their clinic since the start of the pandemic, compared with pre-pandemic numbers.

And Dr. Kavi told us that the situation is the same in the U.K.: "Here, the feedback that I'm getting from the clinicians that we work with — who run POTS services and secondary care […] — [is] that they're noticing a significant increase in their referrals. And, of course, that means that their waiting lists are getting longer as well."

Who is at risk of POTS, and why?

Current data indicate that the people who most commonly receive a diagnosis of POTS in long COVID are young females.

However, both Dr. Fedorowski and Dr. Chung noted that there is a slight difference in the demographics of people presenting with POTS before the COVID-19 pandemic and those who have POTS associated with long COVID.

According to the researchers, pre-pandemic, most people with POTS tended to be in their teens or early 20s, while people with long-COVID-associated POTS tend to be in their 30s, 40s, and 50s.

Dr. Fedorowski speculated that the high levels of stress that women in these demographics often encounter, perhaps due to persistent issues of gender inequality in the home and workplace, may play a role.

"A lot of younger women […] get affected by POTS as a consequence of COVID-19," Dr. Fedorowski told Medical News Today. "And if you talk to them […], then you will see a picture of a woman who is working very hard, having [a] family, taking care of children, and trying to reach some higher position in […] society; or [there] are the women who are very much stressed by feeling that they are not good enough."

During the pandemic, for instance, women have continued to bearTrusted Source the higher burden of child care and stay-at-home orders during the early stages have also disproportionately affected working women.

ResearchTrusted Source has shown that chronic stress can have a very real physiological impact, leading to impaired immune system function and cardiovascular and gastrointestinal problems.

However, reflecting on the shift in POTS demographics outlined by Drs Chung and Fedorowski, Dr. Kavi wondered whether "it's a real increase in older people having POTS

[after COVID-19] or whether it's just not being picked up in younger people" since POTS is often not given due consideration as a possible diagnosis.

"In terms of pediatricians and [family doctors], for example, they often don't think about [POTS as a possible diagnosis], and then there's very little, almost nothing in the way of services for people in the U.K. with POTS that are under the age of 16, so I just don't know whether it's there and we're missing it or it's not [been] there [previously]."

– Dr. Lesley Kavi

Ms Vàzquez also wondered whether more people with long COVID are now receiving POTS diagnoses not because they have newly developed the syndrome after becoming ill with COVID-19, but because their existing POTS symptoms have worsened in the aftermath.

In their online support group, she told us, people are "often reflecting on how they may have had signs of autonomic dysfunction prior to getting sick [with COVID-19]."

Research on POTS conducted before the COVID-19 pandemic further indicates that the syndrome can be associated with various chronic conditions, including diabetes, sarcoidosis, and lupus, as well as with aggressive treatments, such as chemotherapy.

There is also some suggestion that POTS can develop following a viral illness and that sometimes genetic factors may be at play.

According to PoTS UK, the syndrome can have associations with inherited conditions, such as hypermobility spectrum disorder and hypermobile Ehlers-Danlos Syndrome.

POTS also has associations with mast cell activation disorderTrusted Source, which causes allergic symptoms.

How to treat POTS

Although POTS is an incurable condition, some medical interventions can improve its management. A mix of appropriate medication, physical therapy, and some lifestyle or behavioral interventions can help, according to the Johns Hopkins POTS Program.

Ms. Meriquez Vázquez noted that she has had to modify some of her habits to make her symptoms more manageable.

"I have to keep my blood pressure up with salt and a lot of water," she said. "So, I take salt pills throughout the day to keep my blood pressure even. But one of the long standing symptoms that I'm still dealing with is increased migraines. So the longer I spend upright during the day, the more likely [it is] I'll end the day with a pretty severe migraine," she explained.

Dr. Kavi also advised an increased salt intake, as well as some other lifestyle interventions:

"[I] encourage patients to have increased salt if it's not contraindicated and increased fluid [consumption]; compression clothing can [also] be helpful. Some people find that dietary

measures, such as avoiding very heavy meals [and] refined carbohydrates, are useful. […] You can use postural maneuvers to prevent pre-syncope and fainting, such as activating skeletal muscle[s], and [as for] exercise, we usually recommend that that's done in a horizontal position initially, and often starting at a low level."

Exercise, however, can pose a crucial difficulty, as Ms. Meriquez Vázquez told us. "Because I […] had exercise intolerance, which to me means it's immediately hard to exercise, […] my heart rate would skyrocket, [and] I'd get really short of breath and a little dizzy and nauseated," she pointed out.

"[T]hen there's […] my post-exertional malaise, so even as I got better, I would be able to exercise, and then my symptoms would flare for several days after exercise," she added.

"So I think it's really important, and I have been working with my doctors to help me […] manage both improving my exercise tolerance [and] finding a level of movement and energy expenditure that doesn't crash me over the hours and days after exercise."

– Angela Meriquez Vázquez

Although physical therapy can be tricky because, like Ms. Meriquez Vázquez, many people with POTS find that exercise worsens their symptoms, researchers continue to investigate the best ways to balance rest and physical activity.

At the Karolinska University Hospital, said Dr. Fedorowski, "we treat our patients with drugs that regulate heart rate, we treat our patients with drugs that act on the vessels and increase blood pressure in those who have low blood pressure and have difficulty standing up."

One case published in BMJ Case Reports in June 2021 outlined the potential of using ivabradine, a drug that doctors typically use to treat heart failure, in the treatment of POTS.

"We are [also] using drugs that are working on different receptors, like muscarinic receptors, to counteract muscle weakness," said Dr. Fedorowski. "We are trying out drugs against brain fog [that] otherwise have been used to fight or to treat ADHD [attention deficit hyperactivity disorder]."

The research on long-COVID-associated POTS and the best treatment methods for this syndrome continues. There is hope that, in the not-too-distant future, targeted medication may solve what has seemed unsolvable so far.

"[W]e have found a lot of patients having problems with abnormal mast cell activation, and then we use antihistaminic drugs to treat this condition. Then, we have introduced rehabilitation programs and training programs to make the body more fit. And if the body's more fit, it probably affects both the immune system and makes your body better prepared to counteract the so-called orthostatic intolerance. So, by training, you can treat your body, and you can probably treat your outcome [for the] immune system, as well. Then, you can just change your way of life […]. But in the end, I think that at one point in the future, we will have [targeted] medicines to treat it […]. It's a question of time. We're working on it."