動物和人類的冠狀病毒感染:
媒體的意識形態使用與基於證據的科學方法
Coronavirus Infections of Animals and Humans: Ideological Use in Media vs Evidence-Based Scientific Approach

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Article No / Номеръ статьи: 020130318

For citation (Chicago style) / Для цитирования (стиль «Чикаго»):
Gerilovych, Anton P., Rev., Stegnyi, Borys T., Kornieikov, Oleksandr M., Muzyka, Denys V., Gerilovych, Iryna O., Bolotin, Vitaliy I., Kovalenko, Larysa V., Arefiev, Vasiliy L., Zlenko, Oksana B., and Olena V. Kolchyk. 2020. “Coronavirus Infections of Animals and Humans: Ideological Use in Media vs Evidence-Based Scientific Approach.” Beacon J Stud Ideol Ment Dimens 3, 020130318.
Gerilovych, Anton P., Stegni, Borys T., Kornieikov, Oleksandr M., Muzyka, Denys V., Gerilovych, Iryna O., Bolotin, Vitaliy I., Kovalenko, Larysa V., Arefiev, Vasiliy L., Zlenko, Oksana B., and Olena V. Kolchyk. Coronavirus Infections of Animals and Humans: Ideological Use in Media vs Evidence-Based Scientific Approach. The novel coronavirus SARS-CoV-2 that causes COVID-19 disease, was mainly described as something extraordinary in media discourse. Its “unusual,” almost “mystical” properties have been constantly invented by world media sources since January 2020 thus far. Critical comparison of the real epidemiological, physical, chemical and biological properties of SARS-CoV-2 with most common causative agents of coronavirus family demonstrates that principles and techniques of laboratory diagnostics and prophylaxis of SARS-CoV-2 should be built only on the basis of evidence-based medicine, not on imaginary properties of the virus that were created with ideological purposes.

**Key words:** SARS-CoV-2, COVID-19, media ideology, ideology in science, evidence-based medicine, ideological control
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動物和人類的冠狀病毒感染: 媒體的意識形態使用與基於證據的科學方法

新型冠狀病毒 SARS-CoV-2 帶有 COVID-19 疾病, 在媒體報導中主要被描述為一件非同尋常的事。自 2020 年 1 月至今, 世界媒體一直在不斷地發明其 “不同尋常”的、近乎“神秘”的特性。對 SARS-CoV-2 與冠狀病毒家族最常見致病原因的真實流行病學、物理、化學和生物學特性進行了批判性比較。結果表明, SARS-CoV-2 實驗室診斷和預防的原則和科技只能建立在循證醫學的基礎上。它不應該涉及病毒的假想特性, 而這些特性是出於意識形態目的而創造的。

關鍵詞: SARS-CoV-2, COVID-19, 媒體意識形態, 科學意識形態, 循證醫學, 意識形態控制
Zumla et al. 2016)。

猪短暫性胃腸炎與猪呼吸道冠狀動脈感染 (Wu and McGoogan 2020)。猪輸入性胃腸炎是一種與胃腸道感染有關的猪病毒性疾病，同意含有α-冠狀動脈病毒的DNA，一種暫時性胃腸炎病毒，屬於冠狀病毒科 (DeGroot et al. 2011; Fehr and Perlman 2015)。在20世紀80年代中期，另一種與冠狀動脈病因學有關的猪疾病的研究者被描述為呼吸性冠狀動脈病毒。該因數是豬傳播胃腸炎病毒的部分突變。它在動物感染性病理學中的作用是微不足道的，但由於兩種病毒抗原的相似性，在血清學鑒別上存在很大困難。RCMP 同意所有年齡段猪的呼吸系統紊亂，這種疾病在新生動物中最为明顯，並將撕裂遙遠的年齡段。

感染的實驗室診斷很複雜，包括病毒鑒定和鑒定的數據，它們的核酸和病毒特异性抗體在血清學反應中。

因素識別。通過細胞培養物中的分離，電子顯微鏡、不同的免疫缺陷試驗和因數DNA 檢測來檢測病毒。最常見的方法是通過ELISA 檢測糞便疾病和病毒，用免疫熒光法檢測腸道危象中的病毒。病毒與一種同樣具有冠狀病毒性質的酶豬日記生成器的病毒鑒別是通過電子顯微鏡完成的。

血清學檢查。血清學研究採用中和和酶聯免疫吸附試驗進行。VTEE 和 RKVS 的區別是通過對每種病毒的單克隆抗體交叉中和來完成的。

本病的分子診斷是根據TGES 和 RKVS 病毒檢測協定設計的（表1）。1）根據Kim O 協定，S 基因使用經典的 PLR 作為其部分突變體 (Kim et al. 2000; Lai et al. 1985; Lu et al. 2006; Woo et al. 2009; 2010)。該方案已成功地在實驗室診斷中得到驗證和實施（PBL（確認核磁共振）檢測猪病毒的方法學建議）烏克蘭國家獸醫委員會訴。2009年12月23日至24日。

表1。猪冠狀動脈DNA檢測參數。

| 醒醒 | 初級 | 放大器尺寸 |
|------|------|------------|
| 1    | 傳播性胃腸炎病毒 | TGE/RKVS_F/R, S-gene (Kim et al. 2000) | 1020 |
猪地方性腹瀉又稱猪瘟，是一種豬病毒性疾病，由α-冠狀動脈病毒引起，以脹腹瀉和精疲力竭為特徵。第一種疾病在1971年在英國被描述，但現在幾乎所有的已開發國家都發現了這種疾病。該病影響不同年齡的豬，但最明顯的感染是新生仔豬，發病率和死亡率達到100%。地方性猪腹瀉是一種傳染性疾病，主要通過糞-口途徑傳播。這種疾病在臨床上類似於豬的短暫性胃腸炎，包括厭食、黃疸、腹瀉和脫水（Porcine endemic diarrhea; Wang et al. 2014）。

它被診斷為一種複雜的疾病，包括臨床流行病學數據、臨床觀察和模式，但關鍵部件診斷是實驗室測試。它們的基礎是通過免疫形式分析檢測抗體和通過聚合酶反應方法檢測病毒基因（Pospischil et al. 2002; Saif et al. 2012）。

如今，疫苗可用於控制所有已統計的豬冠狀動脈感染，包括嚴重的和實驗性的。鑒於α-冠狀動脈病毒的相對遺傳和抗原性穩定性，這些疫苗足夠有效，但最具保護作用的是產品。由具有重要流行病學意義的建築商區域菌株製成（Saif et al. 2012）。這些病毒沒有特定性質的抗腫瘤作用（Lau et al. 2007; Li et al. 2019; Olsen 1993; Tung et al. 1992）。

大面積烤麻疹的冠狀動脈感染是一種身體傳染病，多為1周至3個月大，以腹瀉為特徵，精神崩潰和厭食症。它被牛冠狀病毒的β血清病毒喚醒（Fulton et al. 2011）。疾病和死亡率因具體預防、衛生和醫學預防方案和方案的使用而有很大差異。在一個特定的經濟體中。大面積麻疹冠狀動脈感染是一種因素性疾病，其病理效應既可部分減弱，又可明顯比麻疹嚴重或飼養動物的獨立條件，它們對其他細菌和病毒疾病的自然抵抗力和動物流行病背景。

在烏克蘭，這個問題在1970年被描述過。在伊夫教授的領導下，安德列娃。在此期間，國家科學中心，實驗和臨床獸醫研究所，國家安全局，ECVM
（當時，烏克蘭實現蘇聯首次從病體中分離出大面積腐爛草甸的冠狀動脈病毒，並對其生物學特性進行了研究。

從那時起，建造者的生態學和生物學的基礎知識被用來創造控制冠狀動脈感染流行病的工具。我得走了 (Cornelissen et al. 1997; Kazi et al. 2005)。

如今，DNA 科學家已經開發、測試並成功實施了免疫生物藥物，這些藥物可有效控制疾病：

- 用於口腔和冠狀動脈感染診斷對血紅蛋白岩石試驗延遲的反應；
- 用於診斷冠心病病毒感染中的免疫反應；
- 預防羅氏麻疹口腔和冠狀動脈感染的疫苗啟動 (Biotechnology…1988; Stetsenko et al. 1991)；
- 針對口腔、冠狀動脈和大口宮頸的疫苗啟動。

設計的特點是它的敏感性和特異性，並響應國際獸疫局現時提出的控制大規模麻疹冠狀動脈感染的診斷試驗和疫苗建議。

今天，在引進特定工具的條件下，有一個持續監測大規模流氓牛冠狀動脈感染的傳播預防藥等。國外生產。

在這項研究過程中釋放的獸疫分離物適用於綿羊的腎移植細胞（PO-2）和冠狀動脈組織血管，研究了它們的活性和其他生物學特性。在此基礎上魁隆的國家存放在 NBC 微生物 “ECVM” 的集合中，該集合具有國家供應狀態（2014年）。它們的實際用途是建立疫苗和診斷方法，以控制大規模腐爛麻疹的冠狀動脈感染。

為了鑑定細胞培養中已檢測到的病毒，以及直接檢測臨床資料樣本中的病毒基因，包括大型腐爛牛肉的胚芽在內，開發了 N 基因區病毒 DNA 檢測方法 (DeDiego et al. 2007; Gerilovych et al. 2014; Nal et al. 2005; Nieto-Torres et al. 2014)。

關於牛冠狀病毒對人的致病性，現時尚無專門文獻報導 (Chang et al. 2006; Klausegger et al. 1999; Stohlman and Lai 1979; Stohlman et al. 1988; Sturman et al. 1980)。
但我們要注意的是，除了牛冠狀病毒外，β-血清病毒還包括其他物種，如動物病原體（刺猬冠狀病毒 1-食物，魯賽特蝙蝠冠狀病毒 HKU9-蝙蝠等），以及人類（SARS，MERS，SARS-CoV2 與人類冠狀病毒 OC43（Saif et al. 2012）。

就豬和野鳥而言，冠狀病毒在其中廣泛分佈。在它們的鳥類中有幾種由冠狀病毒引起的感染：傳染性雞支氣管炎、印第安人的冠狀腸炎（Hurst et al. 2013）。

雞傳染性支氣管炎是一種禽類的急性傳染性感染，是一種倫理上顯著的禽冠狀病毒（Gammacoronavirus）。

在雞身上，主要發生在年輕人身上，這種疾病以嚴重的呼吸道感染的形式傳播，死亡率很高，而且在事故中以雞的生殖障礙的形式傳播，其特點是無意識水平和雞蛋質量下降。雞傳染性支氣管炎是世界各地常見的傳染病。

世界上還描述了印度的冠狀動態病毒，它對雞和印第安人都有致病性，並談到了對敏感鳥類的主要腸道損傷，表現為腸炎，減肥。

疫苗（減毒活疫苗、滅活疫苗、重組疫苗）已被開發出來，並被積極用於防治和預防其家禽的冠狀動態感染。免疫原性和抗精神病藥物療效。

在烏克蘭，非甾體抗炎藥和南鳥研究站開發了一系列替代疫苗產品來控制傳染性支氣管炎。在臨床和臨床條件下，考慮到國際獸疫局和歐元區現時的要求，它們已被證明是有害的、免疫的和與人口有關的。

這些藥物對鳥類免疫活性器官的影響以及使用創新免疫方法產生免疫反應的研究。

為了控制對國際獸疫局診斷標準的免疫力，採用一種方法研製了雞傳染性支氣管炎適用於個人和人群感染後和接種後免疫的 ELISA。

為直接檢測和鑒別病毒（而雞傳染性支氣管炎病毒具有非常複雜的生物學結構，用病毒血清型數來描述，世衞組織沒有交叉保護能力）開發了使用重組對照樣品檢測針對 PCR 的病毒的方法。

在過去的幾年裏，野鳥已經發現了相當數量的冠狀動態病毒。是的，冠狀動態病毒是分階段發現的，雞、野鴨、野鵝。在某些情況下，它是一種傳染性雞支氣管炎——類似的病毒（像傳染性雞支氣管炎病毒）。同時，一個足夠大
的群體由新的鳥類冠狀病毒組成。在大多數情況下，它們是通過分子遺傳學研究方法檢測到的，它們對其他鳥類、動物和人類的致病性現時尚不清楚。

現在，也沒有關於冠狀動脈病毒可能從野鳥傳播給人類的資訊，但也沒有關於可能的併發症的資訊。但同時，你必須注意最近的研究表明，一些冠狀動脈病毒有可能從一種鳥類傳播到另一種鳥類和一些哺乳動物（豬）。因此，在世界不同地區的自然資源中研究新的冠狀動脈病毒的生態學是當前研究的熱點。

今天的 IPCC 一直積極參與研究新出現的冠狀病毒構建者的生態學，這種病毒可以在野生和野生鳥類之間傳播。是的，從上世紀 90 年代起，NBC“ ECVM ”就開始研究雞傳染性支氣管炎在其禽類中的迴圈以及開發特定的診斷和預防工具上個世紀。從 2000 年開始，正在調查野鳥冠狀動脈病毒的迴圈，在一些野生和滑翔鳥類中發現了傳染性支氣管炎病毒（鳥冠病毒）抗體。

因此，我們可以得出結論，今天在養殖動物中沒有冠狀動脈病毒對人類健康的危害。但是考慮到冠狀動脈基因的脆弱性，這些建造者的生態和進化需要醫學和獸醫科學界的持續關注，以便發現並儘量減少移植的風險不同種類動物冠狀動脈病毒的變異性。

**人類冠狀動脈感染**

已知七種主要的人類冠狀病毒感染：OC43（最古老的類型之一）、HCoV-229E、HCoV-NL63、HCoV-HKU1、MERS-CoV、SARS-CoV（SARS-CoV-1）和 SARS-CoV-2（COVID-19）。

他們談論輕微的季節性急性病毒性呼吸道疾病（OS43）和嚴重的呼吸系統疾病和群體性疾病，高波動性和顯著的社會經濟後果（MERS-CoV、SARS-CoV-1 和 SARS-CoV-2（COVID-19）。

所有指定的構建者都指一組 beta 病毒。

世界上最大的打擊是嚴重呼吸綜合征，TGAS 或非典型肺炎（SARS-CoV，亞洲 2002-2003 年流行，8096 例，患病，774 例死亡）(SARS 2019)。BCRS（MERS 冠狀病毒，2012-2015 年亞洲燒傷，2538 人患病，871 人死亡）(Middle East
respiratory syndrome coronavirus...)和新的冠狀病毒-19（SARS-CoV-2，一場始於 2019 年底的大流行，約 6152 萬人被 HIV 數據殺死的人——371,7000，2020 年 6 月 1 日的人(Amawi et al. 2020)。

SARS-CoV2 特異性預防疫苗的研製

在新型冠狀動脈肺炎（SARS-CoV2）大流行的背景下，控制這種疾病的問題尤為突出。感染控制系統的發展有兩個主要趨勢：治療方法的發展和為其特定預防措施而創造治療方法。

今天，根據美國衛生研究所的新聞稿，全世界大約有 760 個週期的臨床試驗非典冠狀病毒 2 型（www.nih.gov 網站）。

請注意，在開發預防冠狀動脈感染的疫苗時，他們通常使用通用方法。經典的選擇是滅活疫苗，它含有通過滅活活病毒獲得的微粒（批發）抗體。這個選擇需要大量的活病毒操作和生物量累積 (Amawi et al. 2020; Chen et al. 2020)。除了材料成本外，培養中的活病毒也會發生變異，因此需要不斷測試或定期更換新的病毒株，需要重新驗證。

使用滅活病毒作為疫苗抗原被認為是相當危險的，需要大量的試驗 (Chen et al. 2020)。培育特別危險的建設者，包括 SARS-CoV2，需要嚴格維護生物安全和生物安全條件。由於這種病毒具有高度傳染性，並且考慮到它的傳播途徑，所有與它有關的操作，特別是大量的操作，都是非常高的生物危害，例如對於實驗室人員以及普通市民，如果故意或非自願地將建築商釋放到環境中。

免疫原性疫苗是以更安全和更經濟合理的管道獲得的，同時考慮到重組來源疫苗抗原的方向。這是通過使病毒的目標基因合法化來實現的，該基因對應於將免疫蛋白合成到血漿載體的成分中，將安全簡單的物體轉化為培養物（例如大腸桿菌、幹菌等)(Chen et al. 2014; 2017)。

另外，已知的重組病毒載體。特別是將 MERS-builder 基因導入人促紅細胞生成素疫苗病毒基因中，在此基礎上構建了相應的候選藥物 (Zhou et al. 2018)。
就一種新類型的冠狀動脈肺炎而言，世界衛生組織今天準予了包括 DNA 疫苗在內的 110 多個候選藥物的臨床試驗。(美國、中國)、重組疫苗(加拿大、歐盟) 和基於 SARS-CoV2 疫情的滅活疫苗 (中國、哈薩克共和國) (Lai et al. 1997; Newman et al. 2011)。

SARS-CoV-2 在人體內的免疫應答機制尚未被詳細研究。病毒通過 cE2 受體進入混合細胞(這些受體也使用 SARS, 而 MERS 則通過 DPP-4 受體進入人體)，後者大量存在於肺中的含量，而在其他人體器官中的含量較少，例如在腹腔。人體對滲透反應產生大量促炎細胞因數，如 IL-2、IL-7、IL-10、G-CSF、IP-10、MCP-1 和 MIP-1A。

假設細胞因數風暴的誘導在 SARS-CoV-2 的發病機制中起關鍵作用 (SARS 和 MERS 病毒在體內也有類似的細胞因數風暴發展)。細胞毒素可導致肺部、手腕炎症、急性呼吸窘迫綜合征 (ARDS)、功能性器官衰竭最後在飛行中結束。

同時，它也能觸發一個關鍵的免疫反應，即干擾素-2，分泌 nF-kB 轉錄因數，抑制病毒複製以及與白介素和 FNP 的拮抗作用 (Tay et al. 2020; Yao et al. 2020)。

SARS-CoV-2 蛋白如 S、N、P、E 和一些結構 ORF 蛋白被認為是形成宿主機體免疫應答的關鍵。作為對 S 蛋白呈現的反應，受感染的有機體開始合成大量中和抗體並啟動 T 細胞免疫。

現在，單一的重組抗原、S 蛋白和含有該蛋白或單個受體結合域的血漿載體都被認為是開發疫苗的首選。核衣殼糖蛋白 (N) 也是一種潛在的疫苗製劑，因為它和 S 蛋白一樣，可以誘導巢穴內形成 T 細胞，並中和抗體 [80, 84 年]。與更頻繁突變的結構 ORF 蛋白不同，S 和 N 蛋白更穩定，因此基於它們的候選疫苗可能具有適當的免疫原性。和效率 (Tay et al. 2020)。

鑑於此解決方案的潛在有效性，我們開始了初步研究，從魁隆這兩種病毒蛋白的砂基基因到擴張的血漿載體中，為下一步細菌轉化做準備用於重組抗體的幹細胞。GeneBank 發現了編碼武漢-19 靶蛋白的完整基因序列。一級系統已經被開發用來引導和魁隆目標病毒基因組片段以及掃描重組魁隆的內部引子。基於這些數據，我們將構建 SARS-CoV-2 免疫和實驗動物候選。
結論

冠狀體對於一組含有 DNA 的病毒的種類、變異性和遺傳可塑性（突變和重組）具有重要意義。病毒基因的不穩定性，以及由此導致的抗原結構的多樣化，同意有必要深入研究它們的生態學和生物學特性。

儘管冠狀動脈病毒缺乏潛在的人類致病性，可作為檢驗消毒劑和藥物預防性直接抗病毒藥物有效性的有效模型，旨在控制 SARS-CoV-2 感染。

建立 SARS-CoV-2 特异性預防工具的潛在途徑是基於構建者基因物表面抗體和培養細胞表面抗體開發候選藥物。

Funding. This work did not receive any specific financing from any governmental, public, commercial, non-profit, community-based organisations or any other source.

Conflicts of interest. None declared.

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EXTENDED SUMMARY

CORONAVIRUSES REPRESENT A SIGNIFICANT NUMBER OF SPECIES, variable and genetically plastic (in terms of mutations and recombination) group of RNA-containing viruses. The instability of the viral genome, and, as a consequence, the divergence of the antigenic structure of these pathogens explain the necessity of evidence-based in-depth studies of the ecology and biological properties of coronaviruses, including the novel pathogen SARS-CoV-2. Despite the lack of potential anthropopathogenicity in animal coronaviruses, they can serve as an effective model for testing the effectiveness of disinfectants, antiviral therapies and vaccines designed to control and contain the SARS-CoV-2 infection. Sober comparing ecological and biological properties of animal and human coronaviruses may lead to a conclusion that a promising area for the development of specific prevention of SARS-CoV-2 spread is the development of candidate drugs based on recombinant surface and internal antigens of the pathogen. Therefore, SARS-CoV-2 cannot be regarded as an unprecedented viral threat to humanity whose properties cannot be but a mystery to science and society.

This deduction can be never heard in TV news on prime world TV channels, often government-sponsored. The SARS-CoV-2-related “news”-like stories for general population are ideologically prepared, checked and double-checked. They contain several permanent narratives about the novel virus with key phrases aimed at influencing people’s fears and raising their anxiety. Some of key phrases are “second wave,” “excessive mortality,” “Wuhan,” “heaps of coffins,” “protective costumes,” “masks and gloves,” “lockdowns.” SARS-CoV-2 is ideologically depicted as the worst “plague” causing enormous number of victims. Moreover, ideologically the novel virus is described as “unknown,” “mysterious,” “unseen heretofore.” Such phrases are common for TV news, talk shows, Internet communication. But even more importantly, they also penetrate academic discourse. The virus may be more or less dangerous, and all statements like this need be proven by medical evidence and statistical approach. One may observe that considerable amount of scientific publications in academic journals become ideologically tinted without necessary evidence. Media ideology of permanent fear before SARS-CoV-2 is universal for all parts of the world. However, it must not influence scientific study of the virus.

As an attempt of unprejudiced and ideology-free use of coronavirus-related infor-
Information in the SARS-CoV-2 matter, we initiated pilot studies to clone in silico genes of two viral proteins S (spike) and N (nucleocapsid) into expressing plasmid vectors for subsequent transformation of bacterial and yeast cells to obtain recombinant antigens. GeneBank was used to find complete sequences of genes encoding the target proteins of the Wuhan-19 strain. Primer systems have been developed for the development and cloning of target fragments of the viral genome, as well as internal primers for screening recombinant clones. In the future, on the basis of these data, candidate drugs for immunisation against SARS-CoV-2 will be constructed and tested on laboratory animals.

The main task of the scientific approach, i.e. approach based on regarding the novel coronavirus pathogen in an unbiased and ideology-free way, may be approached starting with the comparison of all information on other animal and human coronaviruses that scientific community, veterinaries and clinicians possess so far, with the new data on SARS-CoV-2 that are received constantly since the beginning of 2020. Media ideology of SARS-CoV-2-related fear causes much threat to impartial and neutral studies and should be avoided in medical practice and scientific research.

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